San Francisco Geographic Response Area 2
Marin, San Francisco, San Mateo Counties
Environmentally Sensitive Sites

GRA Number 2

Eelgrass

National Marine Sanctuary Boundary

0 2.5 5 10 15 20 Miles

Section 9842 – GRA 2 Gulf of the Farallones and San Mateo Coast

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Summary of Geographic Response Area 2 (GRA 2) Response Resources by Site and Sub-Strategy

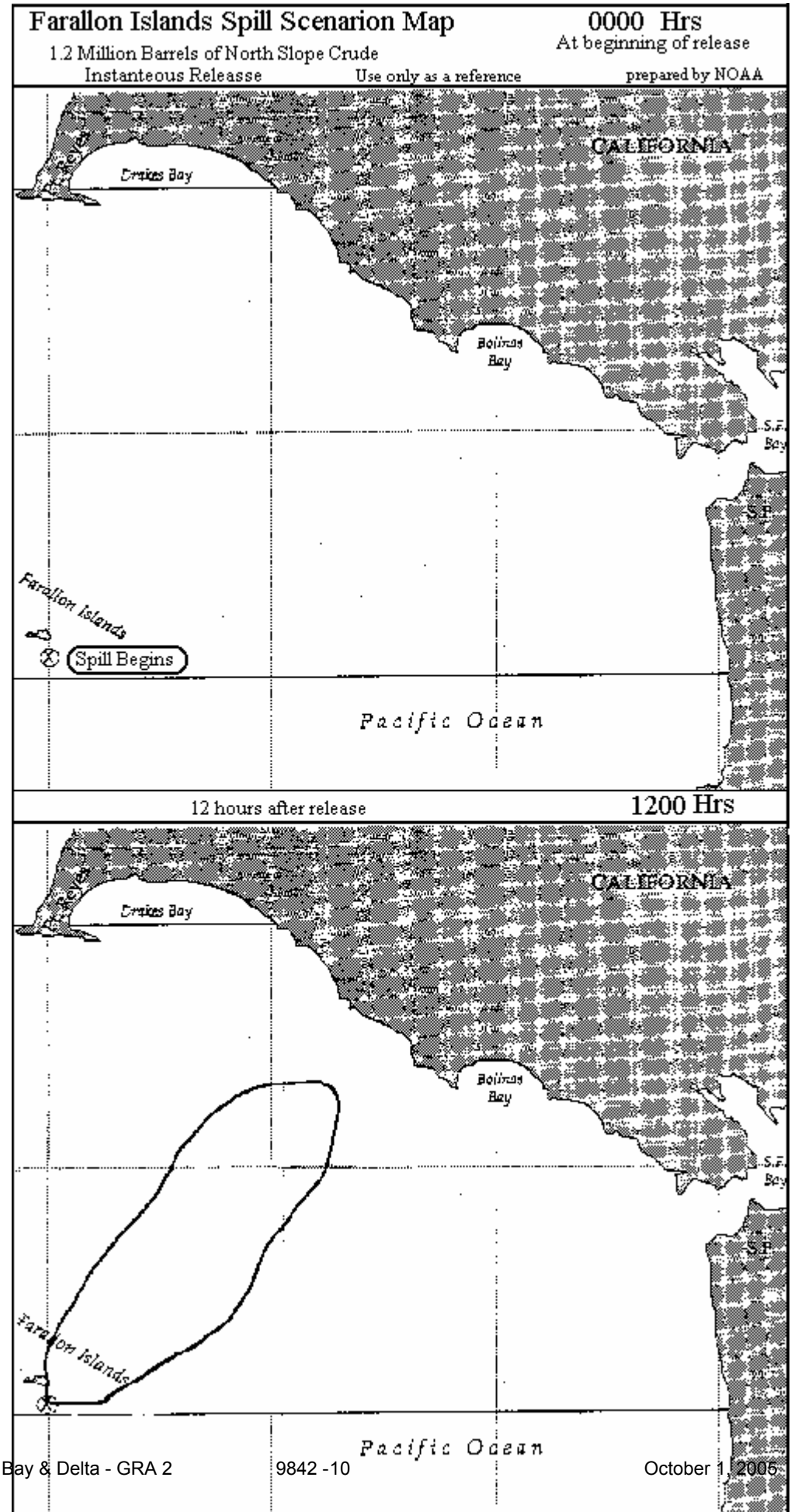
Site	Site Name	sub-strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT	Harbor Boom	Swamp boom	Other boom/TYPE	Sorbant boom	Anchoring No	Anchoring type of gear	Boom boat	Skiff	Skimmer No	Skimmer Type	Special Equipment No	Special Equipment and kinds	(and notes)	deploy staff	Staff t tend
2-201	*Point Reyes Headlands*																	
		.1 -	**Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART	0	
		.2 -	**Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**															
				3000		3050	OB 100	30	30 / 40lb danforth	8	0	0				storage barges or bladders		
		.3 -	**Oil Recovery by skimming**															
				0	0	0	0	0		0	0	4		0				
2-203	*Drakes Beach (West)*																	
		.1 -	**Prevent oil from stranding on shoreline and contaminating marine mammal use areas.**															
				0	0	0	0	0	0	0		0	0			See SF-138.02 strategy	23	
		.2 -	**Prevent oil from stranding on shoreline and contaminating marine mammal use areas.**															
				3000		50	os 100	20	15-20 / 25-40 lb. Danforth	4	0	0				storage tanks, bladders, or vac trucks		
		.3 -	**Oil Recovery by skimming**															
				0	0	0	0	0		0	0	2		0				
2-205	*Drakes Estero*																	
		.1 -	**Exclude oil from entering either Drakes or Limantour Estero.**															
				0		2000	OB	25	20-25 / 25-40 Danforth	4	0						28	
		.2 -	**Exclude oil from entering either Drakes or Limantour Estero.**															
				6000		50	OS 2100	30	25-30 / 25-40lb Danforth	4	4						28	
		.3 -	**Exclude oil from entering either Drakes or Limantour Estero.**															
				0	0	0	0	0	0	0		0	0			Bulldozer	4	
		.4 -	**Oil Recovery by skimming**															
				0	0	0	0	0		0	0	3	vssl depl	0				
2-207	*Limnatour Spit*																	
		.1 -	**Prevent oiling on beach, especially west end from parking area to the estero mouth.**															
				0	0	0	0	0	0	0		0	0			front-end loader, grader		
2-210	*Point Resistance*																	
		.1 -	**Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART	0	
2-213	*Miller Point*																	
		.1 -	**Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART	0	
2-216	*Double Point and Stormy Stack*																	
		.1 -	**Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas. Prevent penetr**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART	0	
		.2 -	**Contamination and injury to marine mammals, seabirds, and rocky intertidal organisms. Penetration of oil into cobble an**															
				0		1000	OB	10	10 / 25-40lb Danforth	2	0						0	
2-219	*Duxbury Reef*																	
		.1 -	**Prevent oil from stranding on rocky shoreline and contaminating tidepools and marine mammal use areas. Prevent pene**															
				0			5000											
2-222	*Bolinas Lagoon*																	
		.1 -	**Primary - Exclusion/deflection/to collection just inside lagoon mouth whenever exclusion on outside is impractical.**															
					3000	50	OS 1000	16	10x30-45lb; 6x50lb		3						6	2
		.2 -	**Prevent oil from entering the lagoon through the east channel at Kent Island. Deflect oil to and strand oil on Kent Island.**															
				0	600							0						
		.3 -	**Prevent oil from entering lagoon by deflecting oil towards outer beaches.**															
				2000				10	10x30-50lb.	3	0						16	
		.4 -	**Shoreside Skimming of skimmable oil in collection/exclusion boom**															
				0	0	0	0	0		0	0	1	SSS	0		Sallow water skimming device and storage		
		.5 -	**Strand oil on Stinson Beach before entering Bolinas Lagoon**															
				2000		0	0	8	10x30-45lb; 6x50lb	2				0			10	
2-225	*Redwood Creek/Big Lagoon/Muir Be*																	
		.1 -	**Exclude oil from entering Big Lagoon and Redwood Creek. As much oil as possible should be stranded outside Big Lag**															
				0	200		1000		small anchors or stakes	0	0					Bulldozer or front-end loader	18	
2-228	*Rodeo Lagoon*																	
		.1 -	**Exclude oil from entering the lagoon.**															
				0	1200	50	OS 2100		small anchors or stakes	0	2					Bulldozer or front-end loader	18	

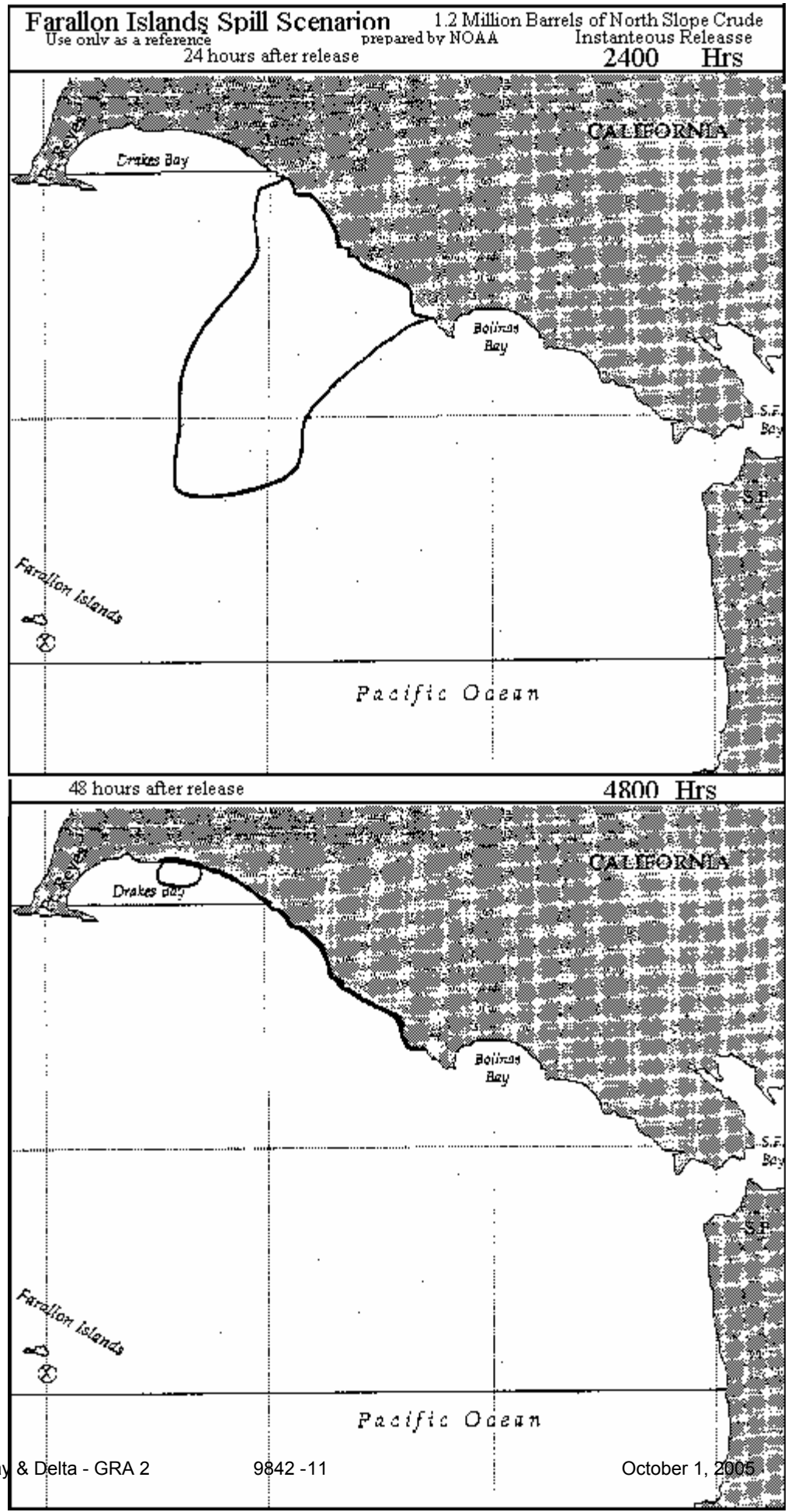
Site	Site Name	sub-strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT	Harbor Boom	Swamp boom	Other boom/TYPE	Sorbant boom	Anchoring No	Anchoring type of gear	Boom boat	Skiff	Skimmer No	Skimmer Type	Special Equipment No	Special Equipment and kinds	(and notes)	deploy staff	Staff tend
		.2 -	**Oil Recovery by skimming**															
				0	0	0	0	0		0	0	1		0				
2-231	*Bird Island*	.1 -	**Prevent oil from stranding on rocky shoreline and contaminating seabird use areas.**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART		
2-234	*Point Bonita and Bonita Cove*	.1 -	**Prevent contamination and injury to marine mammals, seabirds, shorebirds, and the rocky intertidal zone. Penetration a**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART		
		.2 -	**Deflect oil away from shore to on-water recovery operations. Prevent oil from stranding on rocky shoreline and contamin**															
				0		2000	OB	10	8-10 / 40-60lb Danforth	2	0						9	
		.3 -	**Oil Recovery by skimming**															
				0	0	0	0	0		0	0	1	ocean	0				
2-236	*Pt. Diablo to Lime Point*	.1 -	**Prevent contamination and injury to marine mammals, seabirds, shorebirds, and the rocky intertidal zone. Prevent penet**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART		
		.2 -	**Deflect oil away from shore to on-water recovery operations. Prevent oil from stranding on rocky shoreline and contamin**															
				0		2000	OB	10	8-10 / 40-60lb Danforth	2	0						13	
		.3 -	**Oil Recovery by skimming**															
				0	0	0	0	0		0	0	1	ocean	0				
2-240	*Farallon Islands*	.1 -	**Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART		
2-244	*Land's End*	.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**															
				0	0	0	0	0	0	0		0	0			On-water Recovery / ART	0	
2-246	*Cliff House and Seal Rocks*	.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**															
				0												On-water Recovery / ART	0	
2-248	*Ocean Beach/Fort Funston*	.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**															
				0	0	0	0	0	0	0		0	0			ART & On-Water Skimming	0	
		.2 -	**deflection booming**															
				0		6000	OB			1	1						8	
2-250	*Thornton Beach State Park*	.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**															
				0												On-water Recovery / ART	9	
		.2 -	**Deflect oil past site to shore collection.**															
				0		1050	OB	100		2	0						6	
		.3 -	**Oil Recovery by skimming**															
				0	0	0	0	0		0	0	1	SSS	0				
2-253	*San Pedro Creek*	.1 -	**Exclude oil with boom from creek and riparian corridor during modest flow conditions.**															
				0	50		50									8 stakes	2	
		.2 -	**Exclude oil using sediment dike when high surf pushing up into creek mouth**															
				0	0			0								culvert & sandbags or front end loader.	3	
2-255	*Shelter Cove & San Pedro Rock*	.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**															
				0	0	0	0	0	0	0		0	0				0	
2-258	*Point Montara Area*	.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**															
				0	0	0	0	0	0	0		0	0			ART & On-Water Skimming		
2-260	*Seal Cove to Pillar Point*	.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**															
				0	0	0	0	0	0	0		0				ART & On-Water Skimming		
2-262	*Pillar Point Marsh & Denniston Cree*	.1 -	**Exclude oil from marsh by sediment dike across marsh mouth.**															
				0	0	0	0	0	0	0		0	0			bulldozer (and, as necessary, a culvert)	2	
		.2 -	**Keep oil out of Denniston Creek**															
				0	50				stake to keep from catinary sa								2	

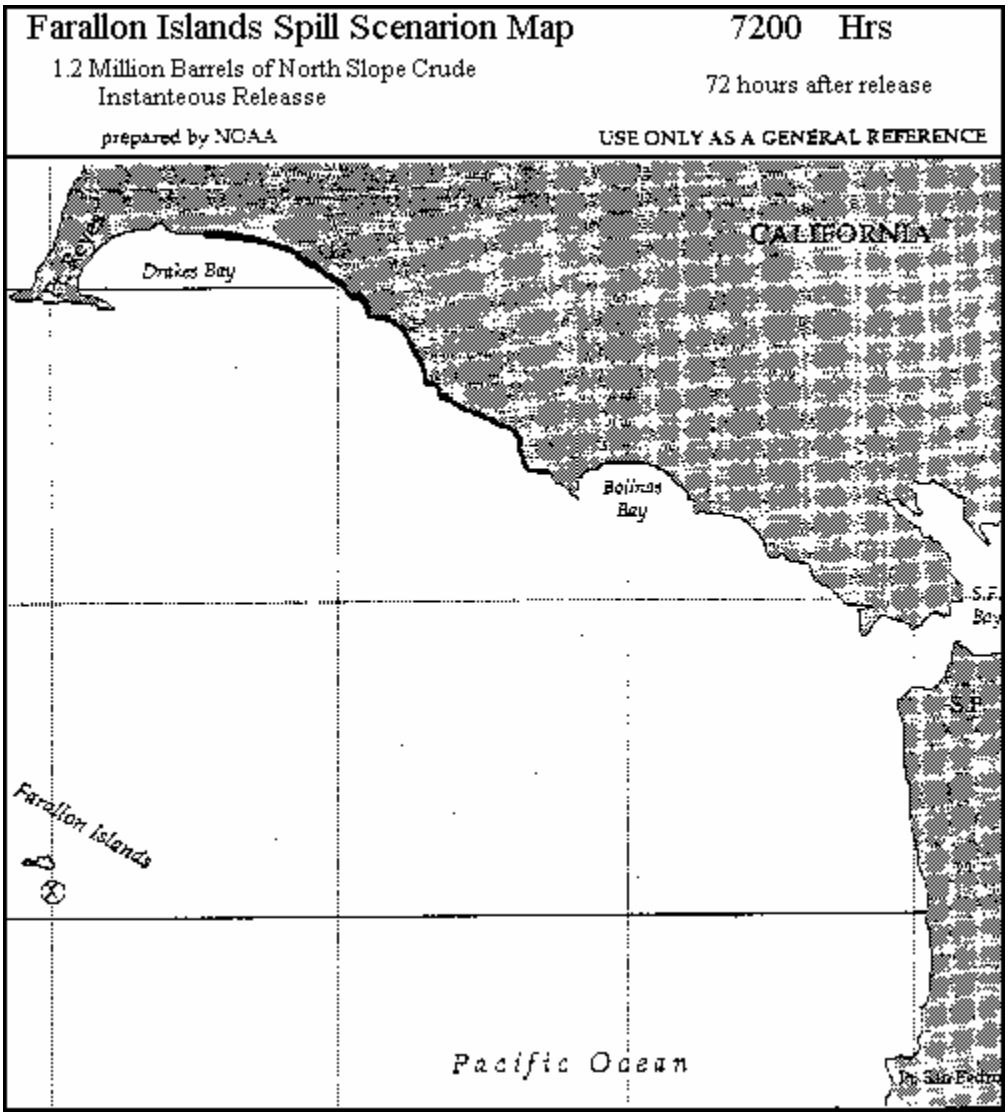
Site	Site Name																						
sub-strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT																						
	Harbor Boom	Swamp boom	Other boom/TYPE		Sorbant boom	Anchoring No	type of gear	Boom boat	Skiff	Skimmer No	Type	Special Equipment No	and	kinds	(and notes)							deploy staff	Staff t tend
.3 -	**Divert oil away from marsh opening.**																						
	500							1	1													5	
.4 -	**Exclusion/collection to Keep oil from entering harbor though breakwater entry - booming without closing mouth to harbo**																						
	500					9	2/50+ & 7/22 danforths + 20' c	1	1	1	vessel sk											5	
.5 -	**Protection booming of inside of breakwater if heavy oil is likely to pass though the breakwater - line inside breakwater w**																						
	0	12300			200	13	13/12+/danforths & stakes	2	2													10	
2-264	*Naples Beach to S. Miramontes Pt.*																						
.1 -	**Exclude/deflect oi in Pilarcitos Creek inlet and lagoon**																						
	0	1000			1000		anchors and stakes															6	
.2 -	**Exclude oil with sediment dike when heavy oil impacts are anticipated**																						
	0	0	0		0	0	0			0	0				bulldozer or snad bags and culvert							2	
2-266	*Martins Beach*																						
.1 -	**Minimize or avert oil from impacting shoreline habitats and wildlife by offshore containment and recovery activities.**																						
	0	0	0		0	0	0	0		0	0				ART & On-Water Skimming								
.2 -	**Exclude oil from Martins Creek with boom or berm when mouth is open or when surf is high enough to wash oil into this**																						
	0	50			50																	2	
.3 -	**Diversion to collection during favorable sea conditions, divert oil past north cove/beach and direct oil to recovery on fine**																						
	1000		50	OS	300	6	6/50+/danforths w 20ft heavy c	2	1													5	
.4 -	**Oil Recovery by skimming**																						
	0	0	0		0	0		0	0	1	SSS	0											
2-269	*Tunitas Beach*																						
.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**																						
	0	0	0		0	0	0	0		0	0				ART & On-Water Skimming							5	
.2 -	**Exclude oil from creek using boom when surf and flow conditions may admit oil to creek.**																						
	0	200	200	SN	200	2	2								pompom 200'							2	
.3 -	**Exclude oil from creek by diking when surf and flow conditions may admit oil to creek.**																						
	0	0	0		0	0		0	0	0		0			visquene, sandbags, syphon piping								
2-271	*Mussel Rock to San Gregorio Beach*																						
.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**																						
	0	0	0		0	0	0	0		0	0				ART & On-Water Skimming							0	
2-273	*San Gregorio Creek*																						
.1 -	**Exclude oil by diking the mouth of the creek when heavy oil impacts are expected.**																						
	0	0	0		0	0		0	0	0					earth moving equipment, Visquene, culverts							4	
.2 -	**Exclusion booming at the mouth of San Gregorio Creek, when level of oiling does not merit diking desturbance or as bac**																						
	0	1500	3000	SN	0	32	30 Stakes & 1/7#+ anchor + 10	0	2	0		0										6	2
.3 -	**Contain/collect oil at seaward end of lagoon, when oil has been washed into lagoon - to keep oil from marshy areas east**																						
	0	600	50	OS	700	0		0	1			0			lift pumps may be necessary							4	2
.4 -	**Oil Recovery by skimming**																						
	0	0	0		0	0		0	0	1	SFS	0											
2-275	*San Mateo Coast State Beaches*																						
.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**																						
	0	0	0		0	0	0	0	0	0													
2-277	*Pomponio Creek*																						
.1 -	**Exclude oil from entering the lagoon. If oil does enter the lagoon, remove it promptly.**																						
	0	2100	0		3600		30 stakes, 1000' 3/8" line	0	0						earth moving equipment, dozer, ATV							10	
2-280	*Pescadero Marsh*																						
.1 -	**Exclude oil from entering the mouth of the creek. If oil does enter the creek, prevent it from reaching the wetland vegetat**																						
	0	4000	50	OS	400	40	40	0	1													10	
.2 -	**Exclude oil from entering the mouth of the creek. If oil does enter the creek, prevent it from reaching the wetland vegetat**																						
	0	0	0		0	0		0	0	1	shallow	0											
.3 -	**Oil Recovery by skimming**																						
	0	0	0		0	0		0	0	0		0											
2-282	*Bean Hollow*																						
.1 -	**Exclude oil from entering the culvert under highway 1.**																						
	0	0	0		0	0	0	0	0						shovels, 100 sandbags, 1 roll plastic							2	
2-284	*Pescadero Point to Pebble Beach*																						
.1 -	**offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**																						
	0		0		0	0	0	0	0														
2-287	*Gazos Creek*																						

Site	Site Name																		
sub-strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT																		
	Harbor Boom	Swamp boom	Other boom/TYPE		Sorbant boom	Anchoring No	type of gear	Boom boat	Skiff	Skimmer No	Type	Special Equipment No	and kinds	(and notes)			deploy staff	Staff t tend	
.1 -	Exclude oil from entering the lagoon at the mouth of the creek. Should oil enter the lagoon, contain it as near the outlet																		
	0	200	50	OS	300	4	4						dozer or helicopter				8		
.2 -	Oil Recovery by skimming																		
	0	0	0		0	0		0	0	1	drum or r	0							
2-289	Whitehouse Creek																		
.1 -	Exclude oil from entering																		
	0	50											500 sandbags, 5 shovels				10		
2-291	Cascade Creek																		
.1 -	Exclude oil from entering the marsh.																		
	0	0	0		0	0	0	0	0				1 roll plastic, 500 sandbags, shovels				10		
2-293	Ano nuevo Island																		
.1 -	offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife																		
	2000					40	40	4	2								16		
2-294	Point Ano Nuevo																		
.1 -	offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife																		
	0	0	0		0	0	0	0	0	0			See Ano Nuevo Island strategy						
.2 -	Shoreline Cleanup of oil stranded on beaches																		
	0	0	0		0	0	0	0	0	0			2 ATVs, front loader, dump truck						
2-296	Ano Nuevo Creek																		
.1 -	Exclude oil from entering the lagoon.																		
	0	0	2250	OS	200	10	10 stakes	0	0				500 sand bags,160' 6" pvc pipe,16 elbo,trash pump				12		
.2 -	Remove oil that presents a threat to wildlife.																		
	0												rakes, shovels, plastic bags, ATV				6		
2-298	Franklin Pt. To Waddell Creek																		
.1 -	offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife. Clea																		
	0	0	0		0	0	0	0	0				ART & On-Water Skimming						

RESPONSE PRIORITIES FOR FARALLON ISLANDS SCENARIO * GRA2				
TIDE AND WIND AT TIME OF INSTANEOUS DISCHARGE OF ANS	TIME PERIOD OILED (HOURS)	PRIORITY	SITE ID	SITE NAME
JANUARY SCENARIO	0	1		Spill Site Containment
300,000 bbl ANS Crude	0	2		On-Water Recovery
N Shore SE Farallon Island @ 0600	0-3	3	240	Farallon Islands
Historical wind data, 8 foot seas	24-48	4	222	Bolinas Lagoon
	24-48	5	225	Redwood Creek / Big Lagoon / Muir Beach
	24-48	6	228	Rodeo Lagoon
	24-48	7	231	Bird Island
	24-48	8	219	Duxbury Reef
	24-48	9	205	Drakes Estero
	24-48	10	201	Point Reyes Headlands
	24-48	11	203	Drakes Beach
	24-48	12	207	Limantour Spit
	24-48	13	216	Double Point & Stormy Stack
	24-48	14	210	Point Resistance
	24-48	15	213	Miller's Point
	48-72	16	244	Lands End
	48-72	17	246	Cliff House & Seal Rocks
	48-72	18	234	Pt Bonita & Bonita Cove
AUGUST SCENARIO	0	1		Spill Site Containment
300,000 bbl ANS Crude	0	2		On-Water Recovery
N Shore SE Farallon Island @ 0600	0-3	3	240	Farallon Islands
Historical wind data, 8 foot seas	24-48	4	244	Lands End
	24-48	5	246	Cliff House & Seal Rocks
	24-48	6	248	Ocean Beach / Fort Funston
	48-72	7	250	Thornton Beach
	48-72	8	253	San Pedro Creek
	48-72	9	234	Pt Bonita & Bonita Cove
	48-72	10	255	Shelter Cove
	48-72	11	258	Point Montara Area
	48-72	11	258	Point Montara Area
	48-72	13	260	Seal Cove to Pillar Point


Farallon Islands Spill Scenarion Map
0000 Hrs
At beginning of release
1.2 Million Barrels of North Slope Crude
Instanteous Releasse
Use only as a reference
prepared by NOAA
CALIFORNIA
Drakes Bay
Bolinas Bay
S.F. Bay
S.F.
Farallon Islands
Spill Begins
Pacific Ocean
12 hours after release
1200 Hrs
CALIFORNIA
Drakes Bay
Bolinas Bay
S.F. Bay
S.F.
Farallon Islands
Pacific Ocean


Farallon Islands Spill Scenarion
1.2 Million Barrels of North Slope Crude
Use only as a reference
prepared by NOAA
Instanteous Releasse
24 hours after release
2400 Hrs
CALIFORNIA
Drakes Bay
Bolinas Bay
S.F. Bay
S.F.
Farallon Islands
Pacific Ocean
48 hours after release
4800 Hrs
CALIFORNIA
Drakes Bay
Bolinas Bay
S.F. Bay
S.F.
Farallon Islands
Pacific Ocean


Farallon Islands Spill Scenarion Map
7200 Hrs
1.2 Million Barrels of North Slope Crude
Instanteous Releasse
72 hours after release
prepared by NOAA
USE ONLY AS A GENERAL REFERENCE
CALIFORNIA
Drakes Bay
Bolinas Bay
S.F. Bay
Farallon Islands
Pacific Ocean

2-201 -A Site Summary- Point Reyes Headlands 2-201 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 8 00	123 00
USGS Quad:	**7.5" Quad: Drakes Bay, CA**	NOAA Chart: **18640 / 18647**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Pt. Reyes Lighthouse to Chimney Rock and inside Drake's Bay to Lifeboat Station. Site is located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary. A rocky headland approximately 3.5 miles long; steep cliffs; offshore washrocks; small pocket beaches of mixed sand and gravel; and rocky intertidal pools.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority all year. Seabirds present all year but nesting during spring and summer (Mar-July). Northern elephant seal breeding and pupping area (Jan-March). Stellar's and California sea lion haul outs August through April. California gray whales nearshore Dec-Feb and Apr-May.

RESOURCES OF PRIMARY CONCERN

Extremely sensitive and important seabird colonies and pinniped rookeries all along the headland on offshore rocks, cliffs, and pocket beaches.

Large seabird colonies (<20,000 in 1989) of Brandt's and pelagic cormorants, black oystercatcher, common murre, pigeon guillemot, tufted puffin, and western gull.

Northern elephant seal breeding and pupping area (Dec-March). Stellar's and California sea lion haul outs August through April. California gray whales nearshore Dec-Feb and Apr-May.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the rocky headland and washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Sara Koenig	US National Park Service, Pt. Reyes (NS)	(415) 663-8525
	Thomas O. Moore	CA Dept. of Fish & Game	(707) 875-4261
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Bill Shook	US National Park Service, Pt. Reyes (NS)	(415) 663-8525

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18640 / 18647	3 8 00	123 00

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Principal concerns are oil contamination and response activity impacts to seabirds, marine mammals, and other vulnerable intertidal plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird colonies and marine mammal haulout areas. Avoid noisy boat traffic near the headland.

HAZARDS and RESTRICTIONS:

Heavy surf, large swell, and strong current common at this site. Nearshore washrocks are present along the headland.

SITE STRATEGIES

Strategy 2-201.1 **Objective: Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.** ACP DATE 1/1/1996

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-201.2 **Objective: Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.** ACP DATE 1/1/1996

If sea conditions allow:

a) Deploy ocean boom off north or south points (1000 ft each) of headland to deflect oil away. Deploy boom off rocky points near seal haulout coves to deflect oil from pocket beaches.
b) Deploy 500 ft of ocean deflection boom from Chimney Rock area easterly into Drakes Bay to deflect oil away from rocky intertidal shore along the inside of the headland.
c) Waters inside Drakes Bay, in the lee of the headland, are often calm, however the currents are variable and unpredictable. Use 18" curtain boom at proper angles to the current to keep oil off the shore using the piers and mooring bouys as anchors if necessary.
d) Use 50ft of Oil Snare (OS) and/or 100ft of sorbent boom to collect any oil that may accumulate. Contact IC if oil accumulates in skimmable quantites.

Strategy 2-201.3 **Objective: Oil Recovery by skimming** ACP DATE

If oil accumulates in skimmable quantities as a result of strategies .1 or .2, deploy skimmers from vessels or piers using boom to deflect and contain oil. Contact IC prior to initiation of this recovery strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-201.1	0	0	0	0	0	0	0	0	0		On-water Recovery / ART	0	
2-201.2	3000		3050 OB	100	30	30 / 40lb danforth	8	0	0		storage barges or bladders		
2-201.3	0	0	0	0	0		0	0	4	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From San Francisco take Hwy 101 North to Sir Francis Drake Blvd in San Rafael, go west to Olema. Turn north (right) on Hwy 1, go 2 miles and take a left on Sir Francis Drake Blvd through Inverness. Continue on Sir Francis Drake to the headland. Pt. Reyes Lighthouse to Chimney Rock and inside Drake's Bay to Lifeboat Station. Site is located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary.

LAND ACCESS: Access to shoreline difficult if not impossible.

WATER LOGISTICS: Large surf and swell, washrocks. Beach landings possible.
Limitations: depth, obstruction

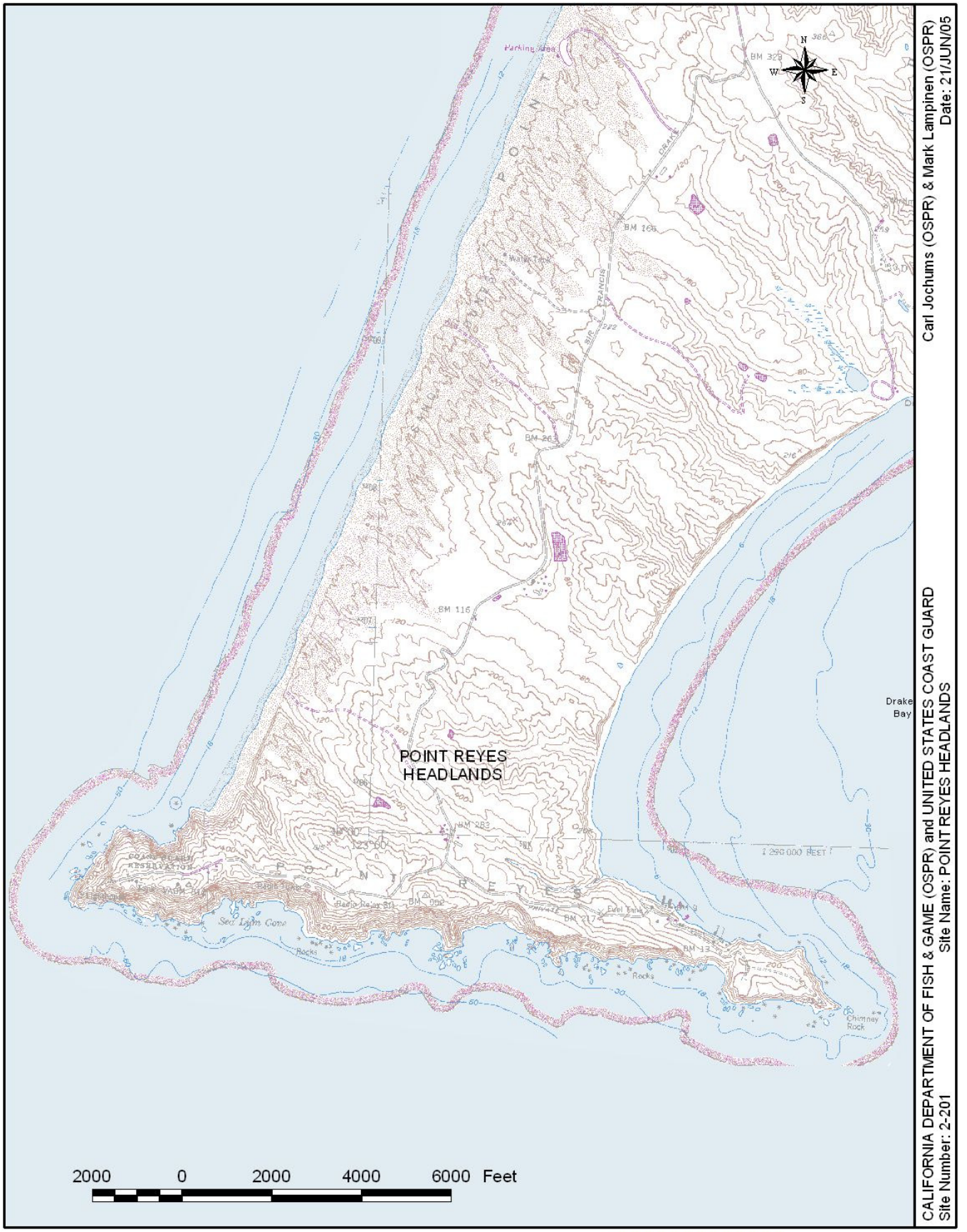
Launching, Loading, Docking and Services Available: Small boat launch on north side of headland at lifeboat station.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Lifeboat station on north side of Pt. Reyes headland. Deploy skimmers from vessel, pier, or shore.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-203 -A Site Summary- Drakes Beach (West)

2-203 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 8 07	122 57
USGS Quad:	**7.5 " Quad: Drakes Bay, CA**	NOAA Chart: **18647**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

This site is 200 yards of Drakes Beach located within Pt. Reyes National Seashore at the southwesterly crook of Drakes Bay about a quarter mile north of the fish pier. This portion of the beach is bounded by cliff to west end and a rocky point to the east. This site is 200 yards of east facing, sand/cobble beach. The back beach rises as vegetated steep bluffs. The upper beach is littered with driftwood and debris. Contains cliff, cobble, boulder, and pilings.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority November through June during the seal haulout and pupping periods. "C" priority the remainder of the year.

RESOURCES OF PRIMARY CONCERN

This sandy "pocket" beach serves as a valuable elephant seal haulout and pupping habitat.

Shorebirds, ducks, and sea birds throughout the year. Bay & sea ducks, cormorants, pigeon guillemots, surf scoters, grebes, loons, and cormorants.

Northern elephant seals (50-100), occasional harbor seals.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Sara Koenig	US National Park Service, Pt. Reyes (NS)	(415) 663-8525
	Thomas O. Moore	CA Dept. of Fish & Game	(707) 875-4261
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Bill Shook	US National Park Service, Pt. Reyes (NS)	(415) 663-8525

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18647	3 8 07	122 57

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to the sand beach and marine mammals which are present most of the year. The primary objective is to minimize the exposure of oil to natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid trampling sensitive plants and animals and disturbing the seals. Avoid low flying aircraft/helicopters (<1000 ft) over marine mammal haulout areas. Avoid noisy boat traffic near the seals

HAZARDS and RESTRICTIONS:

Poison oak. Large south swell possible and strong currents common near this site. Access from pier area involves negotiating a steep dirt trail. Equipment access best from visitors center.

SITE STRATEGIES

Strategy 2-203.1 **Objective: Prevent oil from stranding on shoreline and contaminating marine mammal use areas.** ACP DATE 1/1/1996

Site is relatively protected except from east or southeast winds. There is often a large counter clock-wise gyre in Drakes Bay. In addition to on-water recovery and containment efforts, the following site-specific measures should also be carried out.

Deploy 500 ft of ocean boom from Chimney Rock area east into Drakes Bay to deflect oil downcoast and away from Drakes Bay. This is same deployment as 2-138.02.

Strategy 2-203.2 **Objective: Prevent oil from stranding on shoreline and contaminating marine mammal use areas.** ACP DATE 1/1/1996

Waters inside Drakes Bay, in the lee of the headland, are often calm, however the currents and the swell are variable and unpredictable. Use curtain boom at proper angles to the current to keep oil off the shore using the piers and mooring buoys as anchors if necessary.

a) Deploy 3000 ft of 18" curtain boom from shore at either end of the beach to exclude oil from the beach and deflect it back into the bay for possible collection.
b) Deploy boom from vessels or piers to deflect and contain oil. Use 50ft of Oil Snare (OS) and/or 100ft of sorbent boom to collect small amounts of oil that may accumulate. If oil accumulates in skimmable quantites contact IC.

Strategy 2-203.3 **Objective: Oil Recovery by skimming** ACP DATE

If oil accumulates in skimmable quantities, deploy skimmers from vessels or piers. Contact IC prior to initiation of this strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-203.1	0	0	0	0	0	0	0		0	0	See SF-138.02 strategy	23	
2-203.2	3000		50 os	100	20	15-20 / 25-40 lb. Danforth	4	0	0		storage tanks, bladders, or vac trucks		
2-203.3	0	0	0	0	0		0	0	2	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From San Francisco take Hwy 101 North to Sir Francis Drake Blvd., west to Olema. Turn north (right) on Hwy 1, go 2 miles and take a left on Sir Francis Drake Blvd through Inverness. Continue on Sir Francis Drake past the North Beach access, turn left at sign to Drakes Beach and visitor center. Alternatively, continue to end of road veering left to Chimney Rock. This site is 200 yards of Drakes Beach located within Pt. Reyes National Seashore at the southwesterly crook of Drakes Bay about a quarter mile north of the fish pier. This portion of the beach is bounded by cliff to west end and a rocky point to the east.

LAND ACCESS: 2WD, flatbed (not semi) trucks, 4WD, ATV, foot

WATER LOGISTICS: None.
Limitations: depth, obstruction

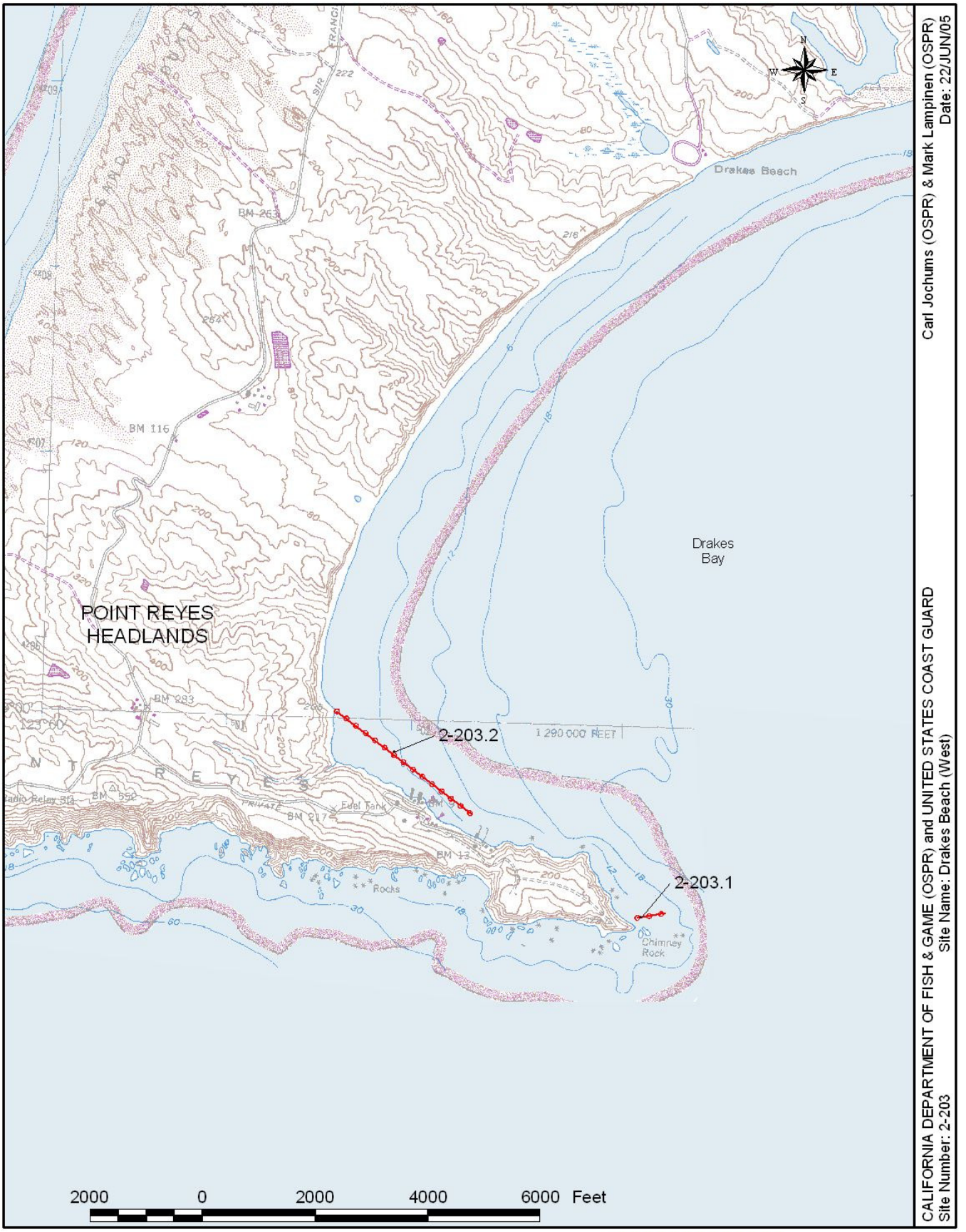
Launching, Loading, Docking and Services Available: There is a hoist on the commercial fish pier and a small boat ramp next to the lifeboat station.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

There are small parking areas at fish pier and lifeboat station on east side of Pt. Reyes headland. Parking and staging is also available at Drakes Beach Visitors Center.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

County:	Thomas Guide Location	Latitude N	Longitude W
Marin County	Marin County	3 8 02	122 56
USGS Quad: 7.5" Quad: Drakes Bay, CA	**NOAA Chart: 18647**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Located within Point Reyes National Seashore and part of site is a designated Wilderness Area. The site includes all of Drakes and Limantour Esteros. A large natural inlet with medium-grained sandy outer beaches. Drakes Estero and Estero de Limantour are connected and tidally flushed through the same opening into Drakes Bay. This shallow Estero contains extensive marshes, tidal mudflats, and 1000 acres of commercial oyster aquaculture operations.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority all year. Several endangered plant and animal species migrate through or are present all year. Harbor seal pupping (Mar-June), molting (July-Aug) and haulout area (year-round).

RESOURCES OF PRIMARY CONCERN

Extensive tidal marshes, tidal mudflats, and eelgrass beds at risk all year.

Western snowy plovers nest (on high beach and foredune areas) and forage on the sandy shores of the Estero and sand spit. California brown pelicans roost and feed in the Estero. High usage area by over-wintering and migrating shorebirds, wading birds, and waterfowl (ca. 14,000 in 1991). A wide variety of raptors, including peregrine falcons, red-tail hawks, osprey, and white-tailed kites forage throughout the esters and surrounding wetlands. Other birds such as turkey vultures and ravens are abundant and at risk from eating dead oiled birds.

Significant Harbor seal breeding, pupping and haulout area (20% of the state population in 1989; 1300-1500 individuals in summer 1991) located in the Esteros and on sand spits at the entrance (peak March-June).

A variety of fish and invertebrates utilize the mudflats and marshes throughout the year. Herring enter the bay to spawn on eelgrass in the winter (Nov-Mar). Dungeness crab use the bay as a nursery area to spawn and grow. Widespread commercial oyster aquaculture operation throughout Drakes Estero.

A variety of clams, worms and crabs may be found in and on the mudflats and intertidal shoreline areas.

Extensive eelgrass beds throughout the Esteros. Two rare plant species are present in the pickleweed saltmarshes: Northcoast birds-beak (Cordylanthus maritimus palustris) and the Marin knotweed (Polygonum marinense).

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
TBLE	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
TBLE	Ben Becker, Ph.D.	US National Park Service, Pt. Reyes (NS)	(415) 464-5247
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Jan Knight	US Fish and Wildlife Service	(916) 978-4866
	Sara Koenig	US National Park Service, Pt. Reyes (NS)	(415) 663-8525
	Thomas O. Moore	CA Dept. of Fish & Game	(707) 875-4261
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Pt. Reyes NP Dispatch PRNS	US National Park Service, Pt. Reyes (NS), Ranger	(415) 464-5170
	Bill Shook	US National Park Service, Pt. Reyes (NS)	(415) 663-8525

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18647	3 8 02	122 56

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to wetlands, rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to minimize the exposure of oil to plants, animals and habitats present at this site. Other concerns are the impacts resulting from response activities. Avoid trampling wetlands, sensitive plants and animals, and soft mudflats, causing penetration of oil into the sediments and further injury to the environment. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird use areas and marine mammal haulout areas.

HAZARDS and RESTRICTIONS:

Large swell and surf along the outer beach and strong current common through the mouth of the Estero.

SITE STRATEGIES

Strategy 2-205.1 Objective: Exclude oil from entering either Drakes or Limantour Estero. ACP DATE 1/1/1996

This large natural inlet cannot be closed by constructing a sediment dike. The mouth may be greater than 1000 ft wide. Length and specific placement of booms may vary due to changing position of estero mouth. In addition to on-water containment and recovery efforts, the following site-specific protection measures should also be carried out:

a) As much oil as possible should be stranded on the outer beaches to reduce the volume flowing into the estero. If conditions allow, deploy several 100-300 ft sections of deflection booms along shore to divert oil onto hard-packed, medium-grained outer sand beaches.

b) Alternative: if conditions allow and inlet mouth is relatively narrow; place a "V shaped" boom configuration beginning several yards from up- and down-coast from the mouth and pointing out from the mouth and into the bay.

Strategy 2-205.2 Objective: Exclude oil from entering either Drakes or Limantour Estero. ACP DATE 1/1/1996

Under high surf conditions when booming outside the mouth is not possible, deploy the following deflcetion/collection booming strategy inside the estero mouth:

a) Deploy a series of cascading 18" curtain boom in the interior east channel (Estero de Limantour) with a hinge point near mid-channel. Deploy at an angle appropriate to deflect oil based on current and/or wind conditions, divert oil to either the fine sand beach catchment area on the mainland directly northeast of the inlet throat, or onto the landward side of the east spit.

b) Deploy another hinged set of cascading deflection booms (18") in the interior northwest channel (Drakes Estero) angled to deflect oil onto the fine sand beach catchment area on the mainland directly northeast of the inlet throat onto the landward side of the west spit . Use 50ft of Oil Snare (OS) and/or 100ft of sorbent boom to collect oil that may possibly accumulate.

Contact IC if oil accumulates in skimmable quantites.

Strategy 2-205.3 Objective: Exclude oil from entering either Drakes or Limantour Estero. ACP DATE 1/1/1996

During periods of extreme high tides and large waves, build a sediment dike across opening through dunes at the western most end of the Drakes beach spit.

Strategy 2-205.4 Objective: Oil Recovery by skimming ACP DATE

If oil accumualtes in skimmable quantites, deploy skimmers to collect oil. Because of very strong flood currents, there may be some entrainment of oil. To guard against this eventuality, it may be necessary to position additional skimmers further back in the tidal channels.

Consult IC prior to initiation of this recovery strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-205.1	0		2000 OB		25	20-25 / 25-40 Danforth	4	0					28	
2-205.2	6000		50 OS	2100	30	25-30 / 25-40lb Danforth	4	4					28	
2-205.3	0	0	0	0	0	0	0		0	0		Bulldozer	4	
2-205.4	0	0	0	0	0		0	0	3	vssl depl	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Highway 101 in San Rafael, take Sir Francis Drake Blvd to Hwy 1 at Olema. Turn right (north) and go 2 miles, turn left (west) on Sir Francis Drake through Inverness. Proceed out to headland and turn left onto Drakes Beach Road to Visitors Center. This will give access to the north spit of the Estero. To reach the south spit: after turning off Hwy 1 onto Sir Francis Drake, take the first left onto Bear Valley Road, then right on Limantour Road, proceed to the end of the road. Located within Point Reyes National Seashore and part of site is a designated Wilderness Area. The site includes all of Drakes and Limantour Esteros.

LAND ACCESS: Use of motorized vehicles is restricted.

WATER LOGISTICS: Tidal sandbar cannot often be crossed.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Small boat launching is possible at Johnson's oyster farm during high tide.

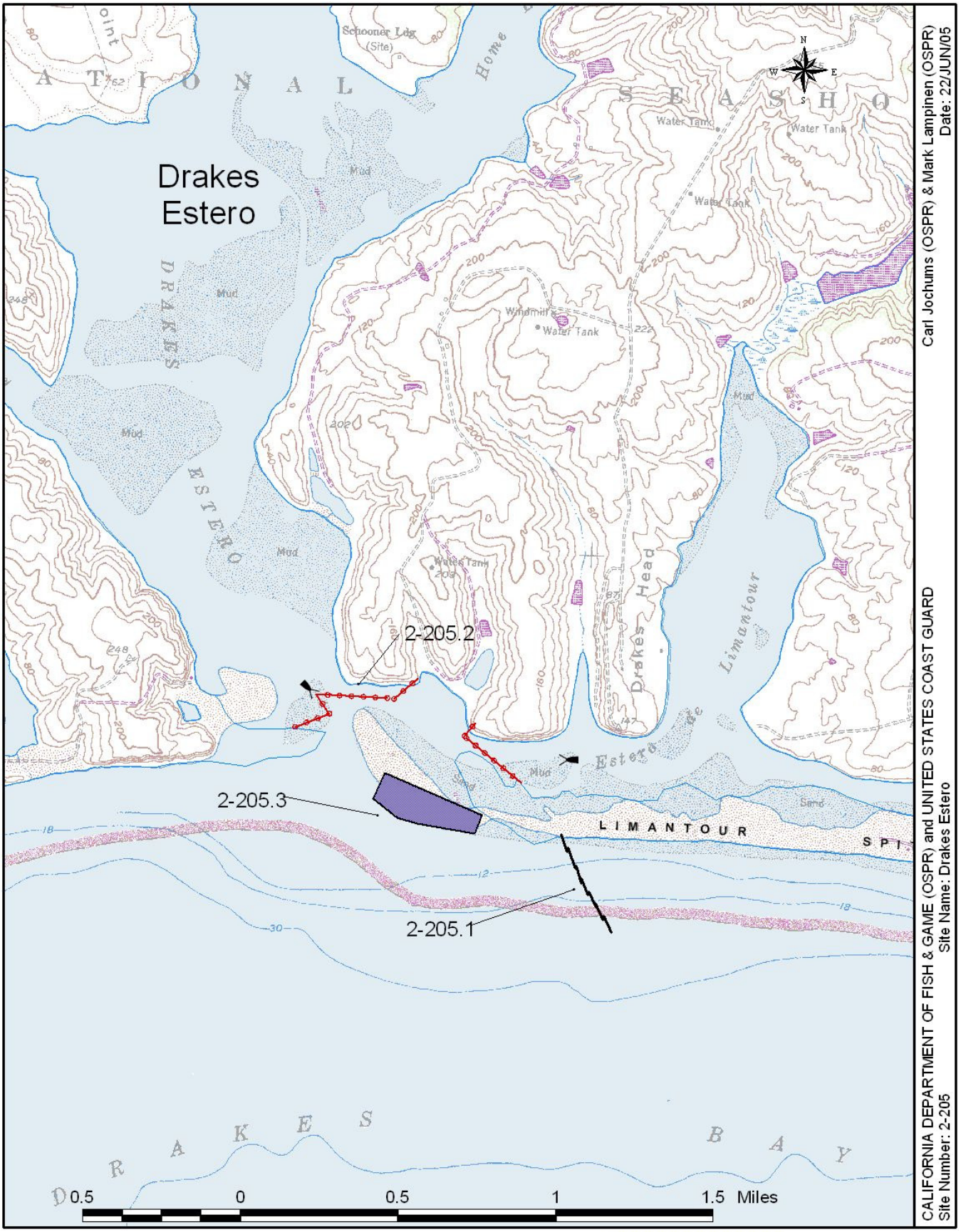
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

On-site staging areas are not available. Closest area is Limantour Beach parking lot 2.5 miles south of the inlet.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

This is a designated Wilderness Area and access is very poor. Permission to access granted by National Seashore. Some farm roads and trails exist but may be impassible, need improvement. Possible access to Limnatour spit from Limantour road south of the Estero. Access by water with landing craft or air from helicopters will be the fastest response, although difficult.



Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-207 -A Site Summary- Limantour Spit

2-207 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 8 02	122 55
USGS Quad:	**7.5" Quad: Drakes Bay, CA**	NOAA Chart: **18647**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Located within Pt. Reyes National Seashore and Estero de Limantour Reserve. The south spit of Limantour Estero is approximately 2.5 miles long and designated as a Wilderness Area. Site also includes the eastern stretch of beach from the parking area to the cliffs. This site is contiguous with site SF-140-A, Drakes Estero. A dynamic medium-grained sand beach backed by vegetated sand dunes.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority all year. Western snowy plover present year round but nest March-August. Significant harbor seal pupping area (peak March-June). A designated Wilderness Area.

RESOURCES OF PRIMARY CONCERN

Extensive sand beach and sand dune habitats at risk all year.

Western snowy plover (ca. 140 in 1997) nesting (on high beach and foredune area) and foraging area. High usage area by over-wintering and migrating shorebirds. A wide variety of raptors, including peregrine falcons, red-tail hawks, osprey, and white-tailed kites forage throughout the esteros and surrounding wetlands. Other birds such as turkey vultures and ravens are abundant and at risk from eating dead oiled birds.

Significant Harbor seal breeding, pupping and haulout area (20% of the state population in 1989; 1300-1500 individuals in summer 1991) located in the Esteros and on sand spits at the entrance (peak March-June). Large mammals such as fox, coyote, raccoon, and deer are common at the site.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Sara Koenig	US National Park Service, Pt. Reyes (NS)	(415) 663-8525
	Thomas O. Moore	CA Dept. of Fish & Game	(707) 875-4261
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Bill Shook	US National Park Service, Pt. Reyes (NS)	(415) 663-8525

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18647	3 8 02	122 55

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to wetlands, rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to minimize the exposure of oil to plants, animals and habitats present at this site. Other concerns are the impacts resulting from response activities. Avoid trampling sand dunes, sensitive plants and animals causing penetration of oil into the sediments and further injury to the environment. Avoid low flying aircraft/helicopters (<1000 ft) over marine mammal haulout areas.

HAZARDS and RESTRICTIONS:

Large swell and surf common along this shoreline.

SITE STRATEGIES

Strategy 2-207.1 **Objective: Prevent oiling on beach, especially west end from parking area to the estero mouth.**

ACP DATE 1/1/1996

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.
c) Manual recovery is the likely cleanup method, however heavy equipment (e.g. graders, front-end loaders, bobcats) may be useful for cleaning this sand beach.
d) ***Access to the west beach portion of this site is restricted to vehicular traffic due to the presence of the threatened western snowy plover and this site's designation as a Wilderness Area. Snowy plovers nest on the foredune above the high tide line March through August. All traffic must be kept out of the area from the high tide line to the top of the dunes during nesting season. Contact Point Reyes National Seashore Resource Specialists for entry.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-207.1	0	0	0	0	0	0	0	0	0		front-end loader, grader		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Highway 101 in San Rafael, take Sir Francis Drake Blvd to Hwy 1 at Olema. Turn right (north) and go 2 miles, turn left (west) on Sir Francis Drake, take the first left onto Bear Valley Road, then right on Limantour Road, proceed to the end of the road. Located within Pt. Reyes National Seashore and Estero de Limantour Reserve. The south spit of Limantour Estero is approximately 2.5 miles long and designated as a Wilderness Area. Site also includes the eastern stretch of beach from the parking area to the cliffs. This site is contiguous with site SF-140-A, Drakes Estero.

LAND ACCESS: Large truck to parking lot. Foot or ATV (maybe?) on beach.

WATER LOGISTICS:
Limitations: depth, obstruction — Access to shoreline restricted due to bird nesting

Launching, Loading, Docking and Services Available: Nearest small boat ramp at Lifeboat Station on Pt. Reyes Headland.

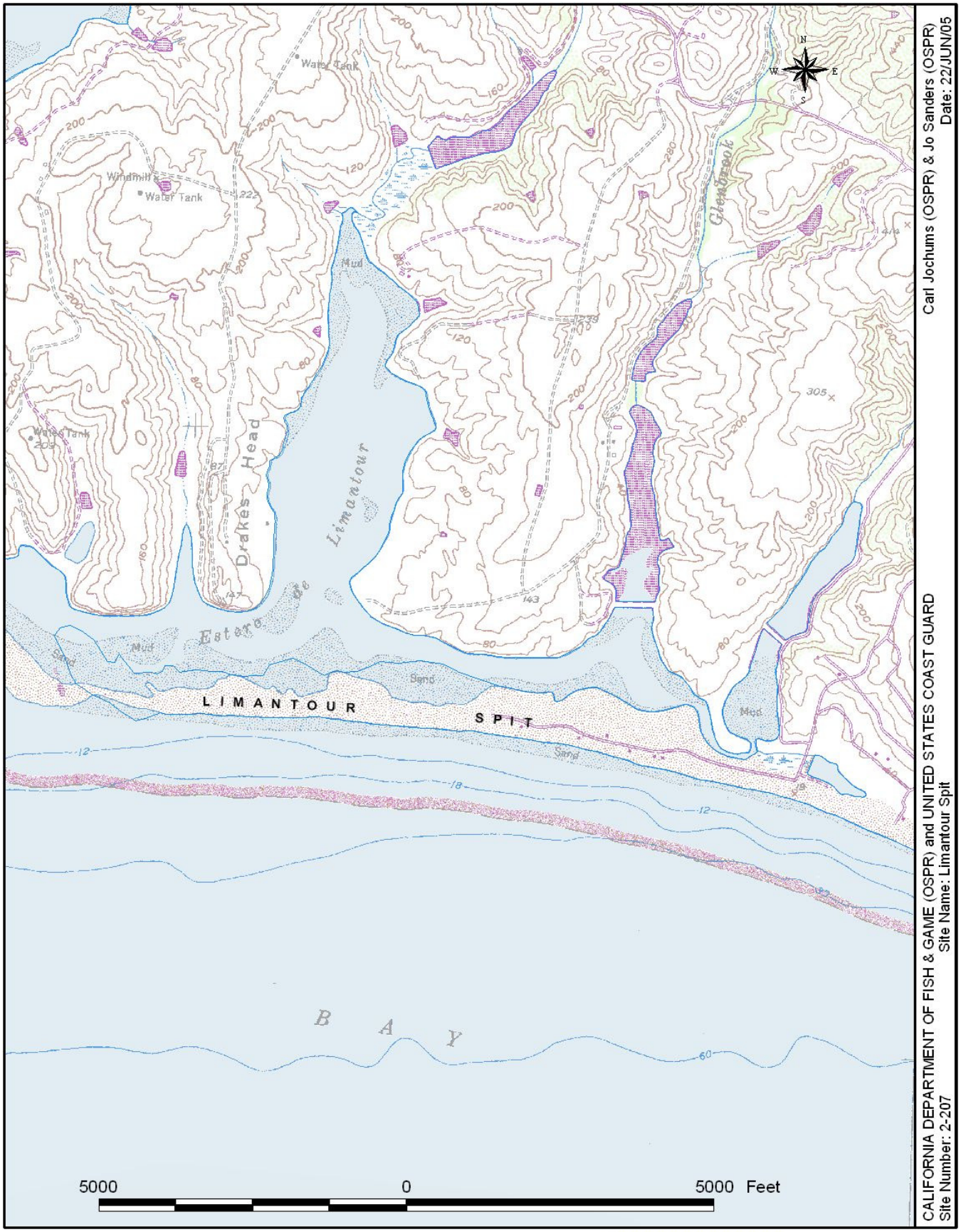
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Limantour Beach parking lot.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Strategy has not been deployed or tested.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 8 00	122 50
USGS Quad:	**7.5" Quad: Double Point, CA**	NOAA Chart: **18640 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

A rocky point located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary along the east shore of Drakes Bay. Approximately 20 nmi upcoast of the Golden Gate. This site consists of a rocky point with exposed rocky cliffs and gravel shoreline.

SEASONAL and SPECIAL RESOURCE CONCERN

Small seabird colony at this site is a "B" priority year-round. Seabirds are most vulnerable during nesting and fledging seasons of early spring through summer.

RESOURCES OF PRIMARY CONCERN

Seabird nesting colony habitat is present at this site.

Seabird colony (ca. 300 in 1980) of Brandt's and pelagic cormorants, pigeon guillemots, and western gulls.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the island and washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Pt. Reyes NP Dispatch PRNS	US National Park Service, Pt. Reyes (NS), Ranger	(415) 464-5170
	Bill Shook	US National Park Service, Pt. Reyes (NS)	(415) 663-8525

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18640 / 18680	3 8 00	122 50

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Principal concerns are oil contamination and response activity impacts to seabirds, marine mammals, and other vulnerable intertidal plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird colonies and marine mammal haulout areas. Avoid noisy boat traffic near the site.

HAZARDS and RESTRICTIONS:

Heavy surf and large swell common at this site. Steep cliffs.

SITE STRATEGIES

Strategy 2-210.1 **Objective: Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-210.1	0	0	0	0	0	0	0	0	0		On-water Recovery / ART	0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

No road access. Accessible only by hiking trail or by boat. A rocky point located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary along the east shore of Drakes Bay. Approximately 20 nmi upcoast of the Golden Gate.

LAND ACCESS: No vehicular shoreline access

WATER LOGISTICS: Heavy surf, washrocks
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Nearest is San Francisco Bay

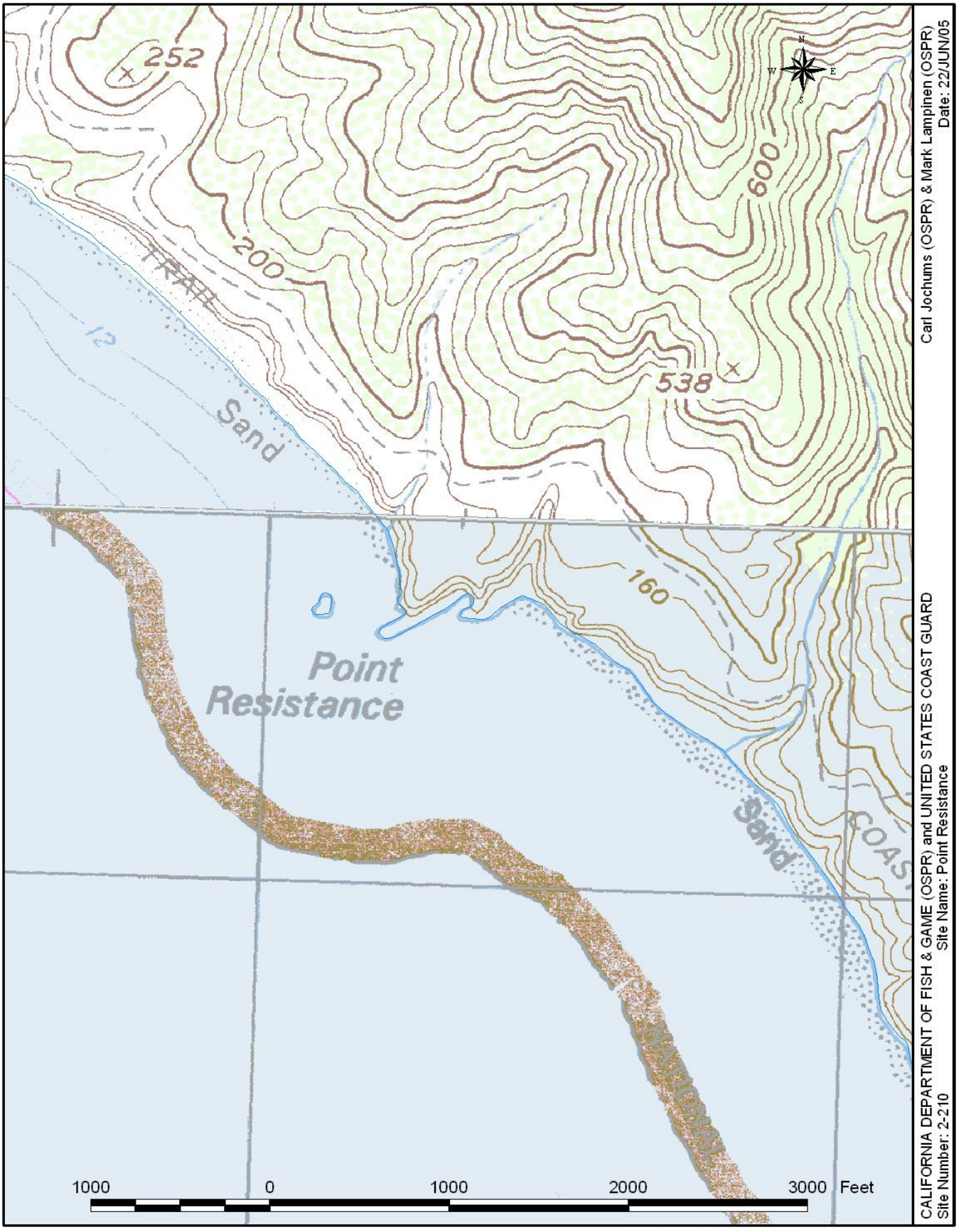
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging on-water only

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Date developed: March 1995. Strategy has not been deployed or tested.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 59	122 49
USGS Quad:	**7.5" Quad: Double Point, CA**	NOAA Chart: **18640 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

A rocky point located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary along the east shore of Drakes Bay. Approximately 18 nmi upcoast of the Golden Gate. The intertidal zone at Miller Point consists of a rocky bench of varying width. The beach to the north is moderately sloped composed of a mixture of sand and gravel. The beach to the south is gravel.

SEASONAL and SPECIAL RESOURCE CONCERN

Small seabird colony at this site is a "B" priority all year. Seabirds are most vulnerable during nesting and fledging seasons of early spring to through summer.

RESOURCES OF PRIMARY CONCERN

Small seabird colony habitat located at this site.

Seabird colony (ca. 300 in 1980) of Brandt's and pelagic cormorants, pigeon guillemots, and western gulls.

Harbor seal may use the beaches and surrounding washrocks as haulout sites.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the island and washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Pt. Reyes NP Dispatch PRNS	US National Park Service, Pt. Reyes (NS), Ranger	(415) 464-5170
	Bill Shook	US National Park Service, Pt. Reyes (NS)	(415) 663-8525

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18640 / 18680	3 7 59	122 49

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Principal concerns are oil contamination and response activity impacts to seabirds, marine mammals, and other vulnerable intertidal plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird colonies and marine mammal haulout areas. Avoid noisy boat traffic near the site.

HAZARDS and RESTRICTIONS:

Large surf and swell, washrocks, steep cliffs.

SITE STRATEGIES

Strategy 2-213.1 **Objective: Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-213.1	0	0	0	0	0	0	0	0	0		On-water Recovery / ART	0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

No road access. Accessible only by hiking trail or by boat. A rocky point located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary along the east shore of Drakes Bay. Approximately 18 nmi upcoast of the Golden Gate.

LAND ACCESS: No vehicular shoreline access.

WATER LOGISTICS:
Limitations: depth, obstruction: Heavy surf, washrocks

Launching, Loading, Docking and Services Available: Nearest boat ramp is in San Francisco Bay

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging on-water only.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Date developed: March 1995

Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-216 -A Site Summary- Double Point and Stormy Stack 2-216 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 57	122 47
USGS Quad:	**7.5" Quad: Double Point, CA**	NOAA Chart: **18640 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary along the east shore of Drakes Bay. Approximately 16 nmi upcoast of the Golden Gate. Site includes the two rocky points known as Double Point, the cove between the points, and the large offshore rock known as Stormy Stack. Double Point is a wave-cut rock platform with mixed sand and gravel beaches on both sides of the two points and in the cove in-between. Stormy stack is an exposed flat top island of steep rocky cliffs approximately 800 yds off the northern point of Double Point. Washrocks can be found inside the cove and around both points.

SEASONAL and SPECIAL RESOURCE CONCERN

Stormy stack is an "A" priority all year because of the large seabird colony. Seabirds are most vulnerable during nesting and fledging seasons of early spring through summer. The harbor seal haul out and pupping site at Double Point is also an "A" priority all year. Seals pup April through July.

RESOURCES OF PRIMARY CONCERN

Seabird nesting and roosting habitat and marine mammal haulout sites are at risk all year.

A large seabird colony (ca. 13,000 in 1980) of common murres, Brandt's and pelagic cormorants, pigeon guillemots, and western gulls. California brown pelicans (endangered) are abundant in the Double Point area during the summer. Seabird nesting occurs primarily from March to July, however, birds use the site all year for roosting.

Double Point is a major harbor seal haulout and pupping site (ca. >1100 in 1991). Seal concentrations are greatest from February to August, peaking in May. Seals pup April through July. Seals use the inner cove and rocky points to haulout.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the island and washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Sara Koenig	US National Park Service, Pt. Reyes (NS)	(415) 663-8525
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Bill Shook	US National Park Service, Pt. Reyes (NS)	(415) 663-8525

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18640 / 18680	3 7 57	122 47

Last Page Update :10/02/05

CONCERNS and ADVICE to RESPONDERS:

Principal concerns are oil contamination and response activity impacts to seabirds, marine mammals, and other vulnerable intertidal plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird colonies and marine mammal haulout areas. Avoid noisy boat traffic near the site.

HAZARDS and RESTRICTIONS:

Heavy surf, large swell and washrocks common at this site. Steep cliffs.

SITE STRATEGIES

Strategy 2-216.1 Objective: on-water and off shore response

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-216.2 Objective: Deflect when sea conditions permit: to avoid oil stranding on rocky shoreline and contaminating seabird and marine mammal use areas.

ACP DATE 1/1/1996

If sea conditions allow, deploy ocean boom off north or south points of headland to deflect oil away. Deploy boom off rocky points near seal haul-out coves to deflect oil from beach.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-216.1	0	0	0	0	0	0	0		0	0	On-water Recovery / ART	0	
2-216.2	0		1000 OB		10	10 / 25-40lb Danforth	2	0				0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

No road access. Accessible only by hiking trail or by boat. Located within Pt. Reyes National Seashore and Gulf of the Farallones National Marine Sanctuary along the east shore of Drakes Bay. Approximately 16 nmi upcoast of the Golden Gate. Site includes the two rocky points known as Double Point, the cove between the points, and the large offshore rock known as Stormy Stack.

LAND ACCESS: No vehicular shoreline access.

WATER LOGISTICS: heavy surf and large swell common at this site.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Closest boat ramp is in San Francisco Bay.

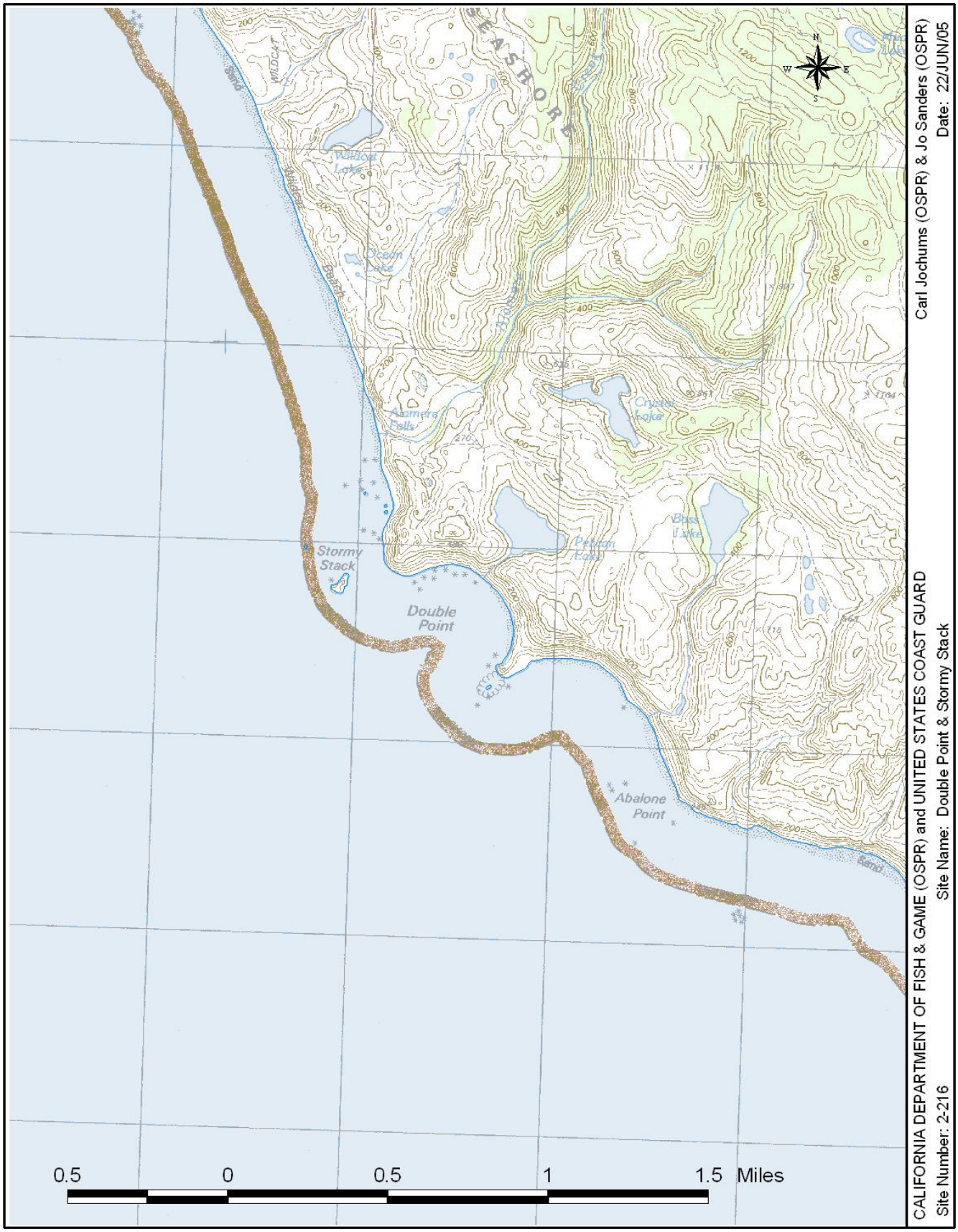
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging on-water only.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Date developed: March 1995, site strategy has not been deployed or tested.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 53	122 40
USGS Quad:	**7.5" Quad: Bolinas, CA**	NOAA Chart: **18649 / 18680**		

Last Page Update : 1/1/1998

SITE DESCRIPTION:

The site is located within Gulf of the Farallones National Marine Sanctuary and partially within Point Reyes National Seashore. It is approximately 12 nmi upcoast from the Golden Gate near the town of Bolinas. The reef is several hundred yards wide and nearly 3 miles long. This is the largest intertidal reef in California. It is a designated wildlife preserve. It consists of a large wave-cut mudstone rocky bench backed by coarse-grained beaches and eroding cliffs with extensive intertidal and tidepool areas.

SEASONAL and SPECIAL RESOURCE CONCERN

"B" priority all year due to its extensive intertidal habitat, rich intertidal biota, and harbor seal haulout sites. It is the largest exposed reef in California.

RESOURCES OF PRIMARY CONCERN

Duxbury reef consists of the largest rocky intertidal reef habitat in California.

A wide variety of shorebirds, wading birds, raptors and scavengers forage on the reef.

Harbor seals are present (200-250) on many on the outer rock outcroppings, primarily towards Bolinas Point and the southern tip of the reef.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the island and washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, very extensive mussel beds, barnacles, goose-necked barnacles, anemones, fish, abalone, seastars and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common in the offshore area beyond the reef.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. For specific sites, contact the Pt. Reyes Park headquarters archeological staff, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Thomas O. Moore	CA Dept. of Fish & Game	(707) 875-4261
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Bob Stewart		(415) 498-6405

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18649 / 18680	3 7 53	122 40

Last Page Update :10/02/05

CONCERNS and ADVICE to RESPONDERS:

Principal concerns are oil contamination and response activity impacts to seabirds, marine mammals, and other vulnerable intertidal plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird colonies and marine mammal haulout areas. Avoid noisy boat traffic near the site.

HAZARDS and RESTRICTIONS:

Heavy surf and large swell common at this site. Very wide rocky reef. Steep, eroding cliffs.

SITE STRATEGIES

Strategy 2-219.1 Objective: Open water & on-water counter measures.

ACP DATE 1/1/1996

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-219.2 Objective: Shoreline oil mitigation and cleanup: Prevent penetration of oil into gravel beaches resulting in long-term persistent oiling of the area.

ACP DATE 10/1/2005

Place several thousand feet of sorbent booms (pom poms or sausage booms) along upper beach to minimize oil pentrating into gravel beach.
Manual removal of oil would most likely be the recommended cleanup method due to the sensitivity of the reef organisms.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-219.1	0													
2-219.2	0	0	0	5000	0		0	0	0		0		4	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 101 to Hwy1 to Bolinas Lagoon. At the top or head of the lagoon turn westward onto Olema-Bolinas Road. Turn right on Mesa Road. Several access point to the reef exist: 1) public access trails from Mesa Road at Palomarin; 2) through the Commonweal Institute north of Bolinas; 3) at Agate Beach County Park. To get to Agate Beach: from Mesa Road turn left on Overlook Drive, turn right on Elm Road and proceed to the parking lot at the end of the road. The site is located within Gulf of the Farallones National Marine Sanctuary and partially within Point Reyes National Seashore. It is approximately 12 nmi upcoast from the Golden Gate near the town of Bolinas. The reef is several hundred yards wide and nearly 3 miles long.

LAND ACCESS: No vehicular access to beach.

WATER LOGISTICS:
Limitations: depth, obstruction — Heavy surf and large swell common at this site.
Launching, Loading, Docking and Services Available: — Nearest boat launch is in San Francisco Bay.

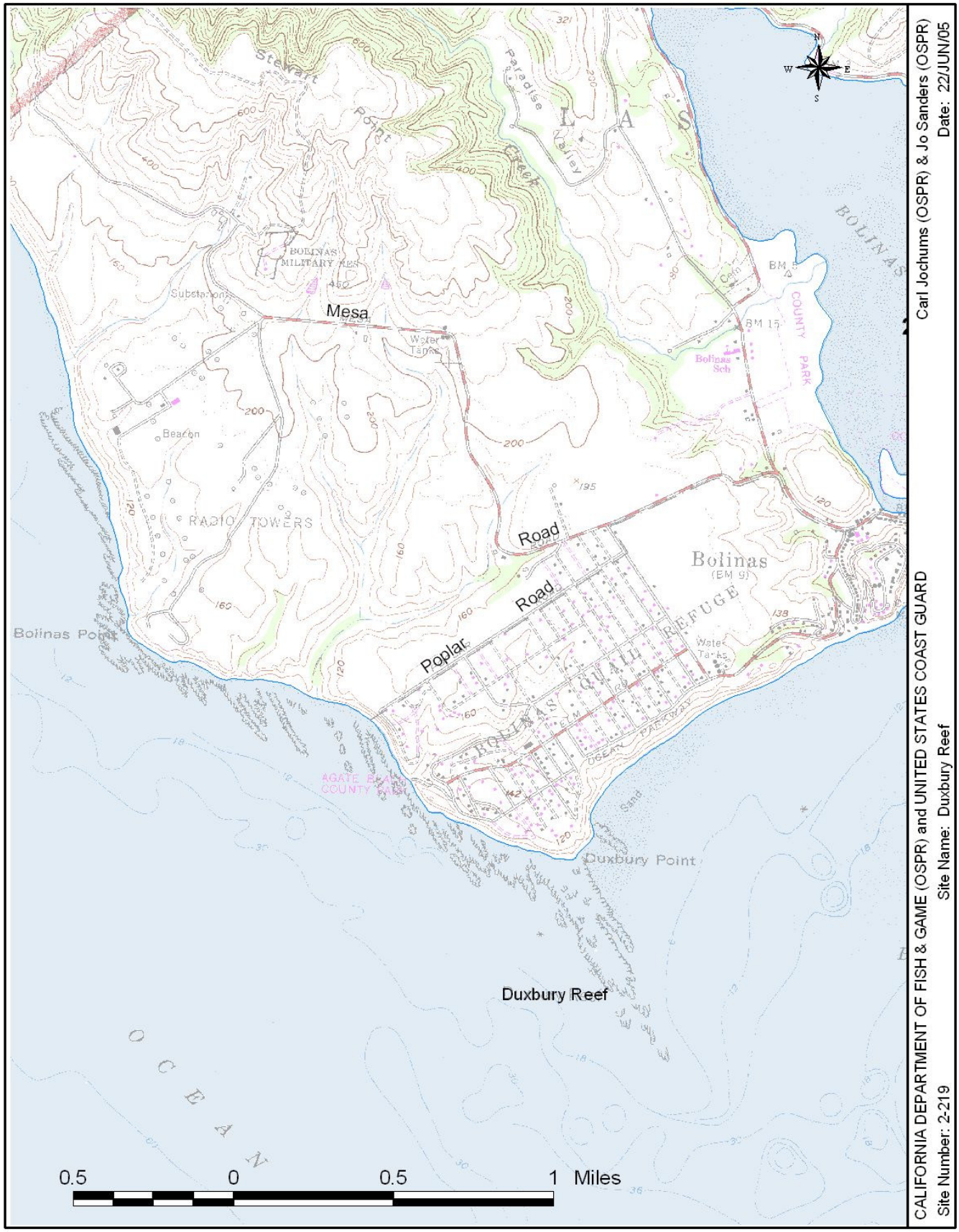
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging access through Agate Beach County Park in Bolinas, the Commonweal Institute on bluffs above the site, and on the Palomarin Beach access at the northwest end of beach.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Strategy developed March 1995, has not been deployed or tested.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-222 -A Site Summary- Bolinas Lagoon 2-222 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin**	Marin County	3 7 55	122 40
USGS Quad:	**7.5" Quad: Bolinas, CA**	NOAA Chart: **18649**		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This site includes all of Bolinas Lagoon, mudflats, and marshes adjacent to the communities of Bolinas and Stinson Beach. A large natural coastal lagoon/estuary with extensive tidal mudflats, saltmarsh, and riparian habitat along freshwater inflows. The lagoon mouth is open all year.

SEASONAL and SPECIAL RESOURCE CONCERN

The lagoon is an "A" priority all year because of its extensive marshes, mud flats and the tremendous numbers of diverse wildlife that utilize the area, such as: harbor seals, fish, shorebirds, wading birds, and waterfowl.

RESOURCES OF PRIMARY CONCERN

Habitat includes extensive marshes and mud flats that are used by harbor seals, shorebirds, wading birds, and waterfowl. Riparian habitat and anadromous fish streams are also present within the estuary.

A great diversity and abundance of birds utilize Bolinas Lagoon throughout the year. Several special status species, such as: the endangered California brown pelican (Apr - Jan), the threatened snowy plover on sand spit at mouth of the lagoon, and Species of Special Concern such as the osprey and merlin, forage, nest and roost in and around the lagoon. Large numbers of egrets and great blue herons are present all year. Dabbling and diving ducks, and shorebirds are very abundant during the winter (Oct - Mar) and peak migration periods (Sept - Nov and Mar - May).

Approximately 200 Harbor seals haul out regularly in the lagoon. Each year approximately 50 pups are born in the spring (Mar - Apr).

A variety of surfperch, flatfish and other nearshore species can be found in the lagoon all year. Pacific herring may enter the lagoon during the winter (Nov - Mar). Coho salmon and steelhead trout may be present in the lagoon and Pine Gulch Creek (Nov - Apr).

A variety of shrimp, clams, and other invertebrates can be found on the mudflats and in the channels (Ghost and mud shrimp, gaper clam, littleneck clam, washington clam).

Saltmarshes fringe the entire lagoon. Freshwater marsh species can be found up tributaries.

Riparian habitat is present along freshwater inflows, primarily on the west side of the lagoon.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
B	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
B	Audubon	Audubon Canyon Ranch	(415) 868-9244
L,A,O	Ralph Camiccia	Bolinas Lagoon Technical Advisory Committee	(415) 868-0528
E, L, B,	Chief Ranger	Marin, County of, Open Space District	(415) 499-6405
B, L, C,	DPR Dispatch	US National Park Service, Golden Gate (NRA)	(415) 561-4620
B,T	Thomas O. Moore	CA Dept. of Fish & Game	(707) 875-4261
B	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
B	Jan Roletto Research Coordinator	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Bob Stewart		(415) 498-6405
E,L	Stinson Beach Office	Stinson Beach, Sea Drift Community	(415) 863-9043

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin	18649	3 7 55	122 40

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to wetlands, rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to keep oil from entering and spreading in the lagoon. Secondary concern is to minimize response activities impacts. Avoid trampling wetlands, sand dunes, sensitive plants and animals, and soft mudflats; causing penetration of oil into the sediments; and harassing seals, birds, and wildlife.

HAZARDS and RESTRICTIONS:

Shallow water/mudflats inside lagoon and strong currents at the mouth. Heavy surf and strong currents exist outside the lagoon entrance and along the outer beach.

SITE STRATEGIES

This is a large natural inlet which cannot be closed (diked). Lagoon mouth is very deep and flood current is very swift, so oil must be stopped either before it enters using open water recovery methods; or just inside where currents slow. In addition to on-water containment and recovery efforts, the following site-specific protection measures should also be deployed. Length and specific placement of booms may vary due to changing currents and bottom topography. Stinson Beach Launch ramp only useable for launching within 3-4 hrs of high tide and only modest size skiff.

Strategy 2-222.1 **Objective: Primary - Exclusion/deflection/to collection just inside lagoon mouth whenever exclusion on outside is impractical.** ACP DATE 1/1/2000

a.) Deploy 2300+ ft. of curtain boom (6x4+) from the concrete wall at Bolinas, across the entrance bay, north of the mid-channel mooring buoys, to the inside sand spit of the Sea Drift Communtiy near the tennis courts. Create a skimming pocket against wall, wrap boom back against shore toward entry, and prepare the pocket to collect oil initially with sorbents and pompoms, but as time permits and oil collectio dictates, by skimmer: advise Incident Command of skimable oil. (at least one 12+ lb anchor and several stakes needed)
b.) Deploy 600 ft. of deflection curtain boom (4x4+ swamp boom) along the western side of the main channel, along house pilings, to divert oil heading up northwest channel onto the high tide sand beach of Kent Island. Back curtain boom with sorbent boom. (three 12+lb anchors and a stake needed)

Strategy 2-222.2 **Objective: Prevent oil from entering the lagoon through the east channel at Kent Island. Deflect oil to and strand oil on Kent Island.** ACP DATE 1/1/2000

Deploy a hinged set of cascading deflection booms (4X4+ swampboom) in the eastern channel. Angle boom to deflect oil onto the high-tide sand beach of Kent Island. Back curtain boom with sorbent boom. Anchor on land with a 22+# anchor or two stakes.

Strategy 2-222.3 **Objective: Prevent oil from entering lagoon by deflecting oil towards outer beaches.** ACP DATE 1/1/2000

If conditions are suitable, place a "V shaped" boom configuration outside the lagoon mouth yet inside the surf breakers (sand bar). The apex of the configuration should point towards the ocean with boom legs angled towards the beaches on either side of the mouth.

Strategy 2-222.4 **Objective: Shoreside Skimming of skimmable oil in collection/exclusion boom** ACP DATE

Deploy shoreside skimming system (SSS) at launch ramp of Stinson Beach community. A skimming pocket will have been preset in previous deployment.

Strategy 2-222.5 **Objective: Strand oil on Stinson Beach before entering Bolinas Lagoon** ACP DATE 1/1/2000

As much oil as possible should be stranded outside the Lagoon on Stinson Beach. If sea conditions allow, deploy a series of deflection booms (harbor or ocean boom) along shore to divert oil onto hard-packed fine-grained sand beach.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-222.1		3000	50 OS	1000	8	4x12+# anchors + 4 stakes		3					6	2
2-222.2	0	600			1	22+# anchor or 2 stakes		1	0				2	
2-222.3	2000				10	10x30-50lb.	3		0				16	
2-222.4	0	0	0	0	0		0	0	1	SSS	0	Sallow water skimming device and storag		
2-222.5	2000		0	0	8	10x30-45lb; 6x50lb	2				0		10	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hwy 101 in Marin County, take Hwy 1 from Sausalito to Stinson Beach; or from San Rafael take Sir Francis Drake Blvd west to Hwy 1, then south to Bolinas or Stinson Beach. To reach south side of lagoon mouth and boat ramp; in Stinson Beach turn on Calle del Arroyo, proceed to Sea Drift Community gate. Once in the community go to end of Sea Drift Rd. -- To get to north/west side of lagoon mouth pass through Stinson Beach to upper end of lagoon on Hwy 1; turn left on Olema-Bolinas Rd., proceed into the town of Bolinas, turn left on Wharf Rd. and go to end. This site includes all of

Bolinas Lagoon, mudflats, and marshes adjacent to the communities of Bolinas and Stinson Beach.

LAND ACCESS: Large trucks okay, no tractor-trailer rigs

WATER LOGISTICS: Heavy surf and strong currents outside, shallow inside.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Boat ramp to lagoon at Sea Drift Community on Stinson Beach spit - accessible only during high tide.

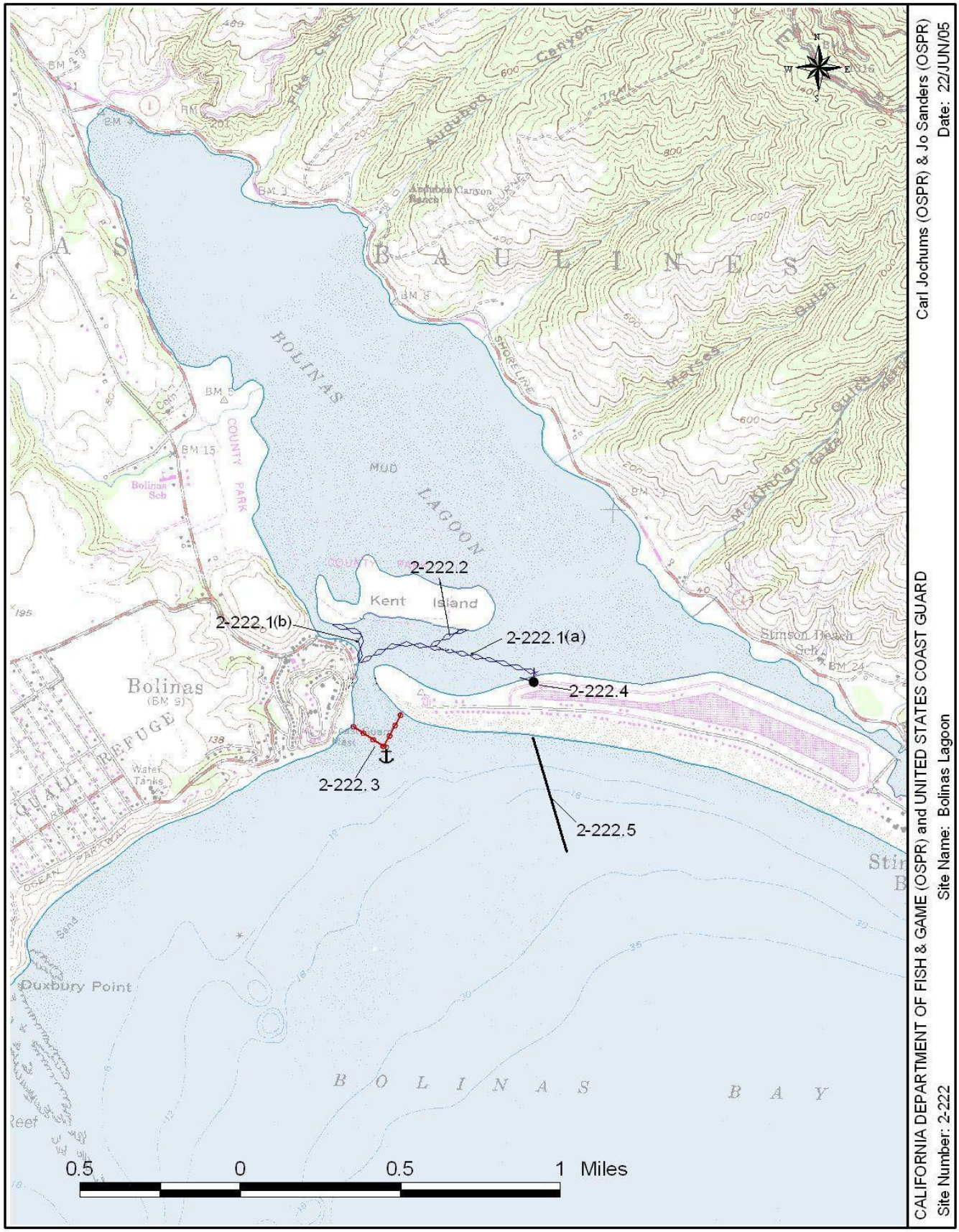
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging on south spit at end of Sea Drift Rd and at boat ramp. Space very limited in Bolinas. Equipment and helio pad available at Bolinas Fire Station a few miles away. No spill response equipment stored locally. Some food and lodging in Stinson Beach, less in Bolinas.

COMMUNICATIONS PROBLEMS: None

ADDITIONAL OPERATIONAL COMMENTS:

Tested by Clean Bay on October 7, 1997. Summary and Strategy modified in October 1997. ACP updated in 1999 for 1/1/00 edition.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-225 -A Site Summary- Redwood Creek/Big Lagoon/Muir Beach 2-225 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 52	122 35
USGS Quad:	**7.5" Quad: Point Bonita, CA**	NOAA Chart: **18649 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Site includes Muir Beach between cliffs north and south, Big Lagoon behind the beach berm and Redwood Creek up to the maximum extent of tidal influence. Muir beach is a medium to coarse grained sand beach with a rocky boulder shore at the northern end. Big Lagoon, at the mouth of Redwood Creek, lies behind the beach and is open to the ocean winter through spring. The lagoon is long, narrow, shallow, and surrounded by marsh vegetation. Redwood Creek is small and has riparian vegetation along its banks.

SEASONAL and SPECIAL RESOURCE CONCERN

This site is an "A" priority all year due to the sensitive lagoon habitat, the presence of peregrine falcons, and anadromous fish runs in Redwood Creek. Oil from the T/V APEX HOUSTON spill in 1986 was flushed into the lagoon.

RESOURCES OF PRIMARY CONCERN

Sensitive habitats at this site include the wetland vegetation surrounding the lagoon, riparian vegetation along Redwood Creek, and the salmon that may be present in the lagoon and creek all year.

The endangered peregrine falcon (endangered) nests and forages in the vicinity of Muir Beach. Small numbers of pelagic cormorants, pigeon guillemots, black oystercatchers, and western gulls nest on the sea cliffs north and south of Muir Beach. A variety of songbirds also use the riparian zone along the creek.

Coho salmon (endangered) and steelhead runs in Redwood Creek in the winter (Nov-Apr), smolt out-migration in the spring-early summer (Feb-June) with Big Lagoon serving as a nursery area. Western pond turtle, a federal category 1 species, in freshwater areas just above tidal influence.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Bill Cox	CA Dept. of Fish & Game	(707) 823-1001
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505
	Golden Gate Raptor Observ	Golden Gate Raptor Observatory	(415) 331-0730
	Santa Cruz Predatory Bird	Santa Cruz Predatory Bird Research Group	

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18649 / 18680	3 7 52	122 35

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to wetlands, rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to minimize the exposure of oil to plants, animals and habitats present at this site. Other concerns are the impacts resulting from response activities. Avoid trampling wetlands, sensitive plants and animals, and soft mudflats, causing penetration of oil into the sediments and further injury to the environment.

HAZARDS and RESTRICTIONS:

Large surf and swell possible.

SITE STRATEGIES

Strategy 2-225.1 **Objective: Exclude oil from entering Big Lagoon and Redwood Creek. As much oil as possible should be stranded outside Big Lagoon on Muir Beach.** ACP DATE 1/1/1996

If large surf conditions exist, construct a dike with a runnel. This can only be done if sand is plentiful and beach is wide enough.

a) Block off inlet with sediment dike (fine-grained sand) using a small bulldozer or front-end loader. The zone of high-tide overwash on the spit is approximately 300 feet long. This is the length of the dike required.

b) If large surf conditions exist, construct a dike with a runnel (a shallow ditch behind the dike) to catch any overwash. This can only be done if sand is plentiful and beach is wide enough.

c) Deploy sorbent and swamp boom across lagoon/creek to prevent movement of oil upstream. Line marsh vegetation along the banks of the lagoon with sorbents. Deploy by hand.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-225.1	0	200		1000		small anchors or stakes	0	0				Bulldozer or front-end loader	18	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 1 to Sausalito, take Hwy 1 north to Muir Beach. Site includes Muir Beach between cliffs north and south, Big Lagoon behind the beach berm and Redwood Creek up to the maximum extent of tidal influence.

LAND ACCESS: Large trucks

WATER LOGISTICS: Large surf common at this site.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Nearest launch ramp in San Francisco Bay.

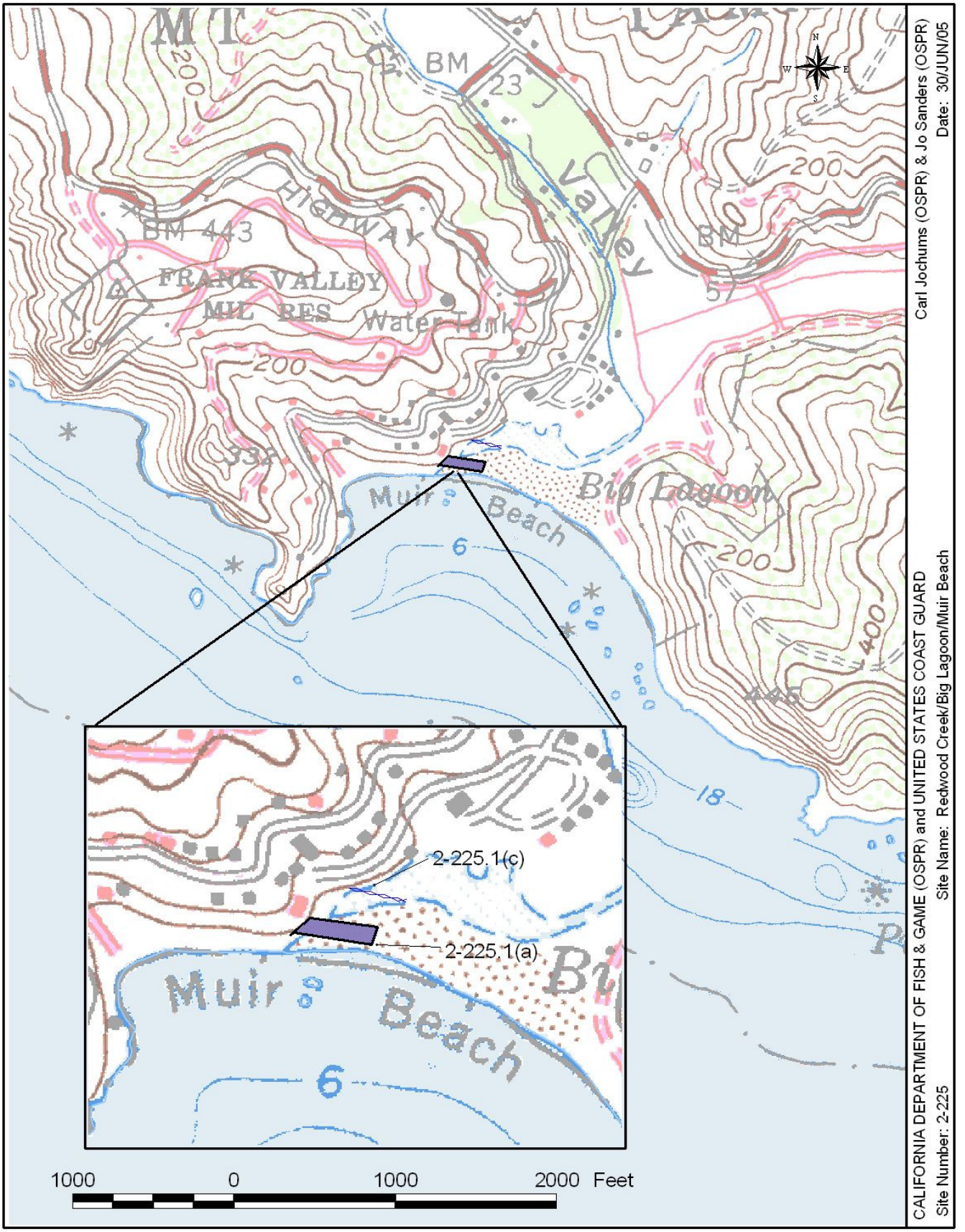
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging area and access at Muir Beach parking lot.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Developed March 1995, strategy has not been deployed or tested.


Carl Jochums (OSPR) & Jo Sanders (OSPR) Date: 30/JUN/05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Name: Redwood Creek/Big Lagoon/Muir Beach
Site Number: 2-225
2-225.1(c)
2-225.1(a)
Muir Beach
Big Lagoon
FRANK VALLEY
MIL RES
Water Tank
Highway
Valley
BM 443
BM 23
BM 57
1000 0 1000 2000 Feet
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 50	122 32
USGS Quad:	**7.5" Quad: Point Bonita, CA**	NOAA Chart: **18649 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Site includes Rodeo Lagoon and Rodeo beach at Fort Cronkhite. It is located within the Golden Gate National Recreation Area only a few mile north of the Golden Gate. Rodeo Lagoon occupies 73 acres behind a coarse-grained sand beach. The Lagoon is open intermittently in winter-spring but experiences significant overwash all year. Freshwater and brackish marsh vegetation line the banks of the lagoon. The site receives a large amount of public recreational use.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority all year due to the sensitive marsh habitat and the presence of the endangered tidewater goby and other vulnerable species. Tidewater goby inhabits the lagoon all year. The endangered brown pelican (Apr-Jan) and many other waterbirds use the beach and lagoon throughout the year.

RESOURCES OF PRIMARY CONCERN

The lagoon and marsh habitat are at risk all year.

The endangered brown pelican (up to 500) uses the beach and the lagoon from April through January. The lagoon also provides habitat for cormorants, grebes, dabbling and diving ducks, herons, egrets, and shorebirds. Saltmarsh yellowthroat (Federal Candidate Species) is present all year. Several raptors use the site, including peregrine falcons, red-tailed hawks, kestrels, and osprey.

Tidewater goby (endangered) inhabits the lagoon all year. It is found in the more saline parts of the lagoon near the mouth.

A variety of brackish and freshwater marsh vegetation is present along the banks of the lagoon. Some dune plants may be present on the upper beach and berm.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Dan Anderson	UC Davis	(530) 752-2108
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505
	Golden Gate Raptor Observ	Golden Gate Raptor Observatory	(415) 331-0730

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18649 / 18680	3 7 50	122 32

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to wetlands, rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to minimize the exposure of oil to plants, animals and habitats present at this site. Other concerns are the impacts resulting from response activities. Avoid trampling wetlands, sensitive plants and animals, and soft mudflats, causing penetration of oil into the sediments and further injury to the environment.

HAZARDS and RESTRICTIONS:

Large surf and swell common at this site.

SITE STRATEGIES

Strategy 2-228.1 Objective: Exclude oil from entering the lagoon.

ACP DATE 1/1/1996

In addition to on-water containment and recovery efforts, the following site-specific protection measures should also be carried out:

a) Block entrance with sediment dike (coarse-grained sand, granules, and pebbles). Dike should extend from the vegetated dune portion of the spit to the rock scarp adjacent to the inlet mouth on the northwest side of the lagoon (approx 800 ft). Height of the dike will be determined by wave conditions. Construct dike with gated culverts, if necessary for runoff during winter.
b) If large surf conditions exist, construct a dike with a runnel (a shallow ditch behind dike) to catch overwash. This can only be done if sand is plentiful and beach is wide enough.
c) Deploy swamp and sorbent booms or fence boom across lagoon and mouth as a precautionary measure. Place along backside of sand spit.
d) Use 50ft of Oil Snare (OS) and/or 100ft of sorbent boom to recover oil that may accumulate. If oil accumulates in skimmable quantities, contact IC.

Strategy 2-228.2 Objective: Oil Recovery by skimming

ACP DATE

Deploy skiimmer if oil accumulates in skimmable quantities. Consult IC prior to initiation of any skimming activities.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-228.1	0	1200	50 OS	2100		small anchors or stakes	0	2			Bulldozer or front-end loader	18	
2-228.2	0	0	0	0	0		0	0	1	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Exit off Hwy 101 at Golden Gate Bridge for Golden Gate National Recreation Area (Marin Headlands). Take the tunnel through the mountain and proceed on Bunker Road to the end at Fort Cronkhite. Site includes Rodeo Lagoon and Rodeo beach at Fort Cronkhite. It is located within the Golden Gate National Recreation Area only a few mile north of the Golden Gate.

LAND ACCESS: Large truck

WATER LOGISTICS: Large surf and swell common at this site.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Nearest boat launch in San Francisco Bay

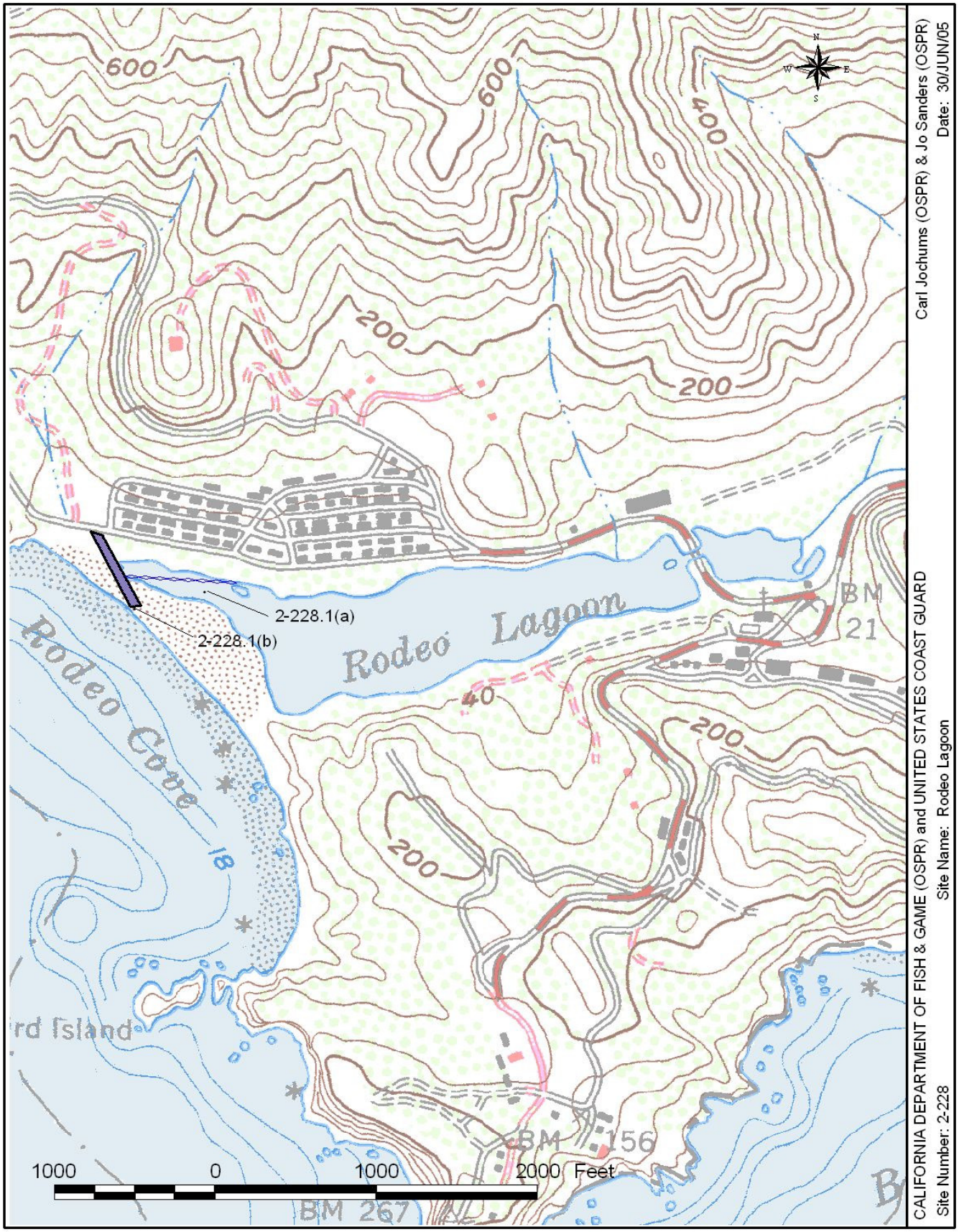
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Large staging area and easy access at Rodeo Lagoon parking lot.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Debris and tarballs accumulate at south end of beach. Strategy developed March 1995. Has not been deployed or tested.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-231 -A Site Summary- Bird Island 2-231 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 49	122 32
USGS Quad:	**7.5" Quad: Point Bonita, CA**	NOAA Chart: **18647 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Large offshore flat top rock island south of Rodeo Lagoon, between Fort Cronkhite and Point Bonita. A large offshore rock that has steep vertical cliffs with boulder talus and rocky intertidal habitat at its base. Very exposed to all waves and weather. Just offshore at the south end of Rodeo Cove beach. Approximately 3/4 mile north of Point Bonita.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority from April through December due to the presence of significant numbers of endangered California brown pelicans and other nesting seabirds. "B" priority January through March due to moderate numbers of roosting seabirds.

RESOURCES OF PRIMARY CONCERN

Seabird nesting and roosting habitat and rocky intertidal habitat at risk.

Up to 500 endangered brown pelicans use the island as a roost site. Also up to 100 Brandt's cormorants, pigeon guillemots, and western gulls nest on the island.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the island and washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here. Unusually large intertidal organisms are also present in tidepools at the base of Bird Island.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Dan Anderson	UC Davis	(530) 752-2108
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18647 / 18680	3 7 49	122 32

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Principal concerns are oil contamination and response activity impacts to seabirds, marine mammals, and other vulnerable intertidal plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird colonies and marine mammal haulout areas. Avoid noisy boat traffic near the site.

HAZARDS and RESTRICTIONS:

Heavy surf and large swell common at this site.

SITE STRATEGIES

Strategy 2-231.1 **Objective: Prevent oil from stranding on rocky shoreline and contaminating seabird use areas.**

ACP DATE 1/1/2000

Island has high verticle rock cliffs with boulders at the base. This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-231.1	0	0	0	0	0	0	0	0	0		On-water Recovery / ART		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

No road access to this island. Closest shore access is to Rodeo Beach. Best access is via boat. Large offshore flat top rock island south of Rodeo Lagoon, between Fort Cronkhite and Point Bonita.

LAND ACCESS: No access

WATER LOGISTICS: Heavy surf and large swell common at this site.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Nearest boat launch is in San Francisco Bay.

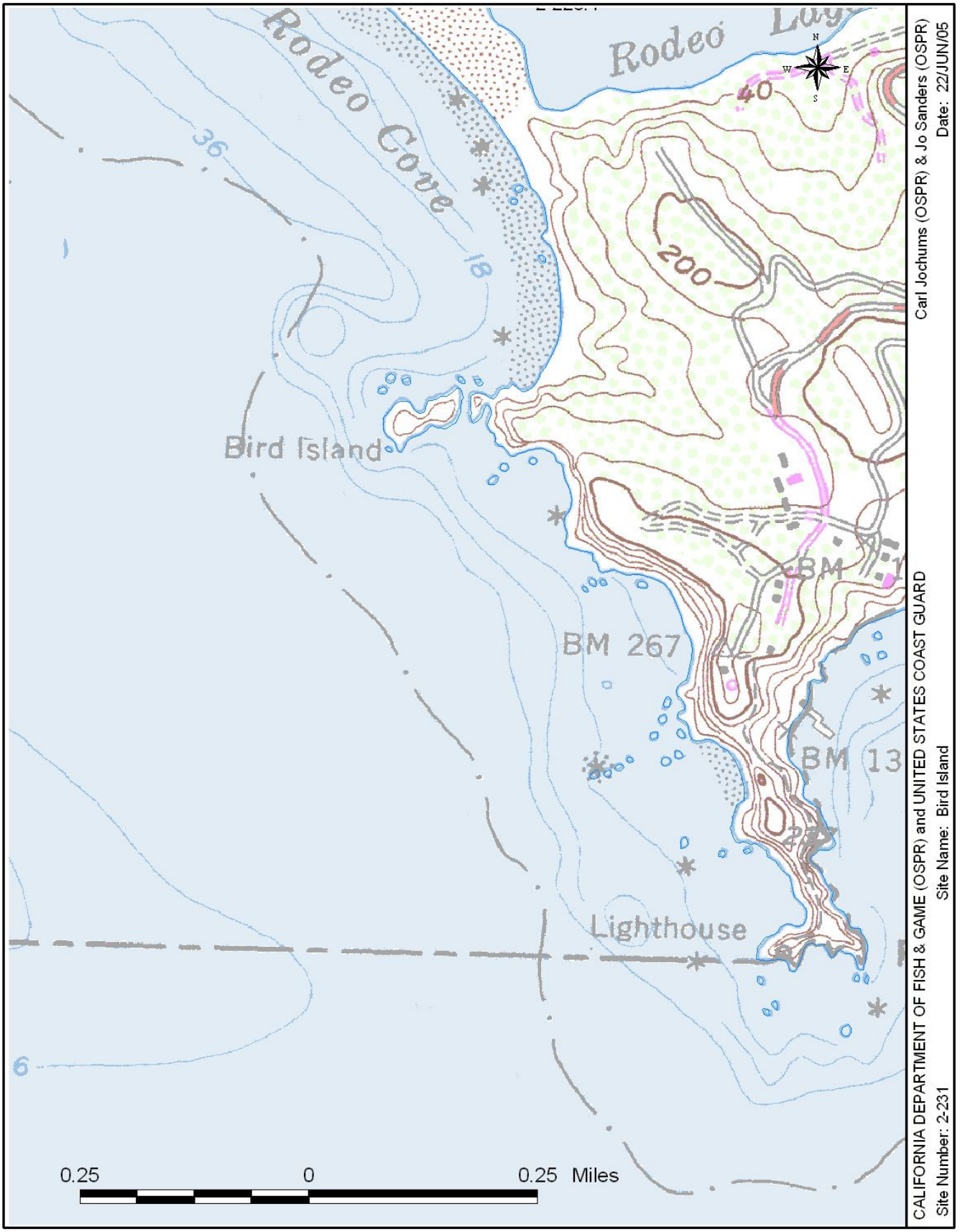
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging inside SF Bay. Staging at Rodeo Lagoon parking area but it would be very difficult to pass anything through the surf zone.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Developed in March, 1995. Not yet deployed or tested.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Site Summary- Point Bonita and Bonita Cove

2-234 -C

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 49	122 31
USGS Quad:	**7.5" Quad: Point Bonita, CA**	NOAA Chart: **18649 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Site includes rocky shores and sand beaches in Bonita Cove from Pt. Bonita to Pt. Diablo. Vertical rock cliffs with a coarse-grained sand and gravel beach at Bonita Cove.

SEASONAL and SPECIAL RESOURCE CONCERN

"C" priority all year for small numbers of nesting seabirds in spring and early summer; harbor seal haulouts year round, and raptor migration corridor in the fall.

RESOURCES OF PRIMARY CONCERN

Seabird nesting area (spring and early summer), harbor seal haul-out area at risk all year, and raptor migration corridor in the fall (August - December).

A variety of seabirds (approx. 100) nest on the cliffs and larger offshore rocks; including pelagic cormorants, western gulls, and pigeon guillemots. This headland area is used in the fall (August - December) as a migration corridor for thousands of raptors. Migrant species include peregrine falcons, bald eagles, and osprey. Occasionally birds will forage on the beach and near shore area.

Up to 55 harbor seals haul out at Bonita Cove.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the island and washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18649 / 18680	3 7 49	122 31

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the site and natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid trampling sensitive plants and animals, disturbing marine mammals, and causing penetration of oil into the sediments and further injury to the environment.

HAZARDS and RESTRICTIONS:

Large surf, swell, and strong currents common at this site. Wash rocks nearshore.

SITE STRATEGIES

Strategy 2-234.1 **Objective: Prevent contamination and injury to marine mammals, seabirds, shorebirds, and the rocky intertidal zone. Penetration and long-term persistance of oil into coarse-grained beach sediments.** ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-234.2 **Objective: Deflect oil away from shore to on-water recovery operations. Prevent oil from stranding on rocky shoreline and contaminating marine mammal use areas.** ACP DATE 1/1/1996

Deflection booms may be deployed in Bonita Cove to protect harbor seal haulout and the rocky intertidal areas if wave conditions permit.

Strategy 2-234.3 **Objective: Oil Recovery by skimming** ACP DATE

If oil accumulates in skimmable quantities as a result of stategies .1 and/or .2, contact IC prior to initiating strategy to deploy skimmer.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-234.1	0	0	0	0	0	0	0	0	0		On-water Recovery / ART		
2-234.2	0		2000 OB		10	8-10 / 40-60lb Danforth	2	0				9	
2-234.3	0	0	0	0	0		0	0	1	ocean	0		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hwy 1 exit immediately north of the Golden Gate Bridge onto Conzelman Road. Proceed to end of road to reach lighthouse at Pt. Bonita. Trails to beach can be accessed from parking lots above Bonita Cove. Site includes rocky shores and sand beaches in Bonita Cove from Pt. Bonita to Pt. Diablo.

LAND ACCESS: Contact GGNRA for access through locked gates.

WATER LOGISTICS: Large surf, swell, and strong currents common at this site.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Nearest boat launch inside San Francisco Bay.

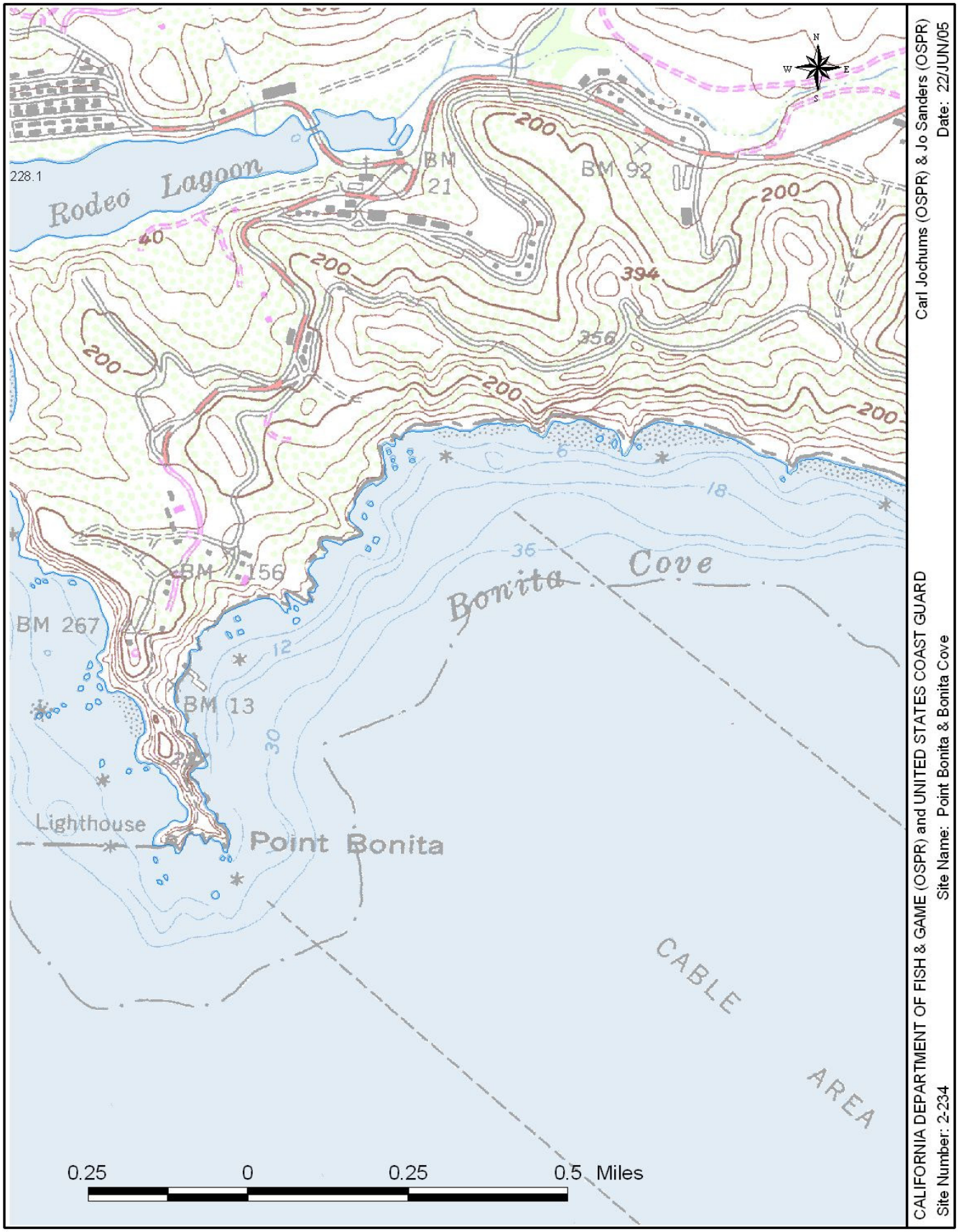
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging and access from on-water. Very limited shore access from steep bluffs above beaches. Contact GGNRA for access.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Developed in March 1995, not yet deployed or tested.


Rodeo Lagoon
228.1
BM 21
BM 92
200
40
394
356
BM 156
BM 267
BM 13
Bonita Cove
Lighthouse
Point Bonita
CABLE AREA
0.25 0 0.25 0.5 Miles
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-234
Site Name: Point Bonita & Bonita Cove
Carl Jochums (OSPR) & Jo Sanders (OSPR)
Date: 22/JUN/05

2-236 -C Site Summary- Pt. Diablo to Lime Point 2-236 -C

		Thomas Guide Location	Latitude N	Longitude W
County:	**Marin County**	Marin County	3 7 49	122 30
USGS Quad:	**7.5" Quad: San Francisco North, CA**	NOAA Chart: **18649 / 18680**		

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Site includes rocky shores and sand beaches from Pt. Diablo to Lime Point along the north shore of the Golden Gate. Vertical rock cliffs with small coarse-grained pocket beaches.

SEASONAL and SPECIAL RESOURCE CONCERN

"C" priority all year.

RESOURCES OF PRIMARY CONCERN

A recreational beach and occasional forage area for raptors. Raptor migration corridor (August - December). Seabird nesting habitat on steep rock slopes above beaches.

This headland area is used in the fall (August - December) as a migration corridor for thousands of raptors. Migrant species include endangered peregrine falcons, bald eagles, and osprey. Occasionally birds will forage on the beach and near shore area. Up to 100 seabirds nest in this area including pelagic cormorants, western gulls, and pigeon guillemots.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the washrocks.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505
	Golden Gate Raptor Observ	Golden Gate Raptor Observatory	(415) 331-0730
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Marin County Marin County	18649 / 18680	3 7 49	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concerns are oil contamination and response activity impacts to rare and endangered species, and other vulnerable plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the site and natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid trampling sensitive plants and animals causing penetration of oil into the sediments and further injury to the environment.

HAZARDS and RESTRICTIONS:

Large surf, swell, and strong currents common at this site.

SITE STRATEGIES

Strategy 2-236.1 **Objective: Prevent contamination and injury to marine mammals, seabirds, shorebirds, and the rocky intertidal zone. Prevent penetration and long-term persistance of oil into coarse-grained beach sediments.**

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-236.2 **Objective: Deflect oil away from shore to on-water recovery operations. Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**

ACP DATE 1/1/1996

Deflection booms may be deployed from rocky headlands to deflect oil from coarse-grained beaches, if wave conditions permit.

Strategy 2-236.3 **Objective: Oil Recovery by skimming**

ACP DATE

If oil accumulates in skimmable quantities as a result of stategies .1 and/or .2, contact IC prior to initiating strategy to deploy skimmer.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-236.1	0	0	0	0	0	0	0		0	0	On-water Recovery / ART		
2-236.2	0		2000 OB		10	8-10 / 40-60lb Danforth	2	0				13	
2-236.3	0	0	0	0	0		0	0	1	ocean	0		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hwy 1 exit immediately north of the Golden Gate Bridge onto Conzelman Road. Trails and road through locked gate to beach at Kirby Cove can be accessed from parking lots above beach. Site includes rocky shores and sand beaches from Pt. Diablo to Lime Point along the north shore of the Golden Gate.

LAND ACCESS: Contact GGNRA for access through any locked gates.

WATER LOGISTICS: Large surf, swell, and strong currents common at this site.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Nearest boat launch is inside San Francisco Bay.

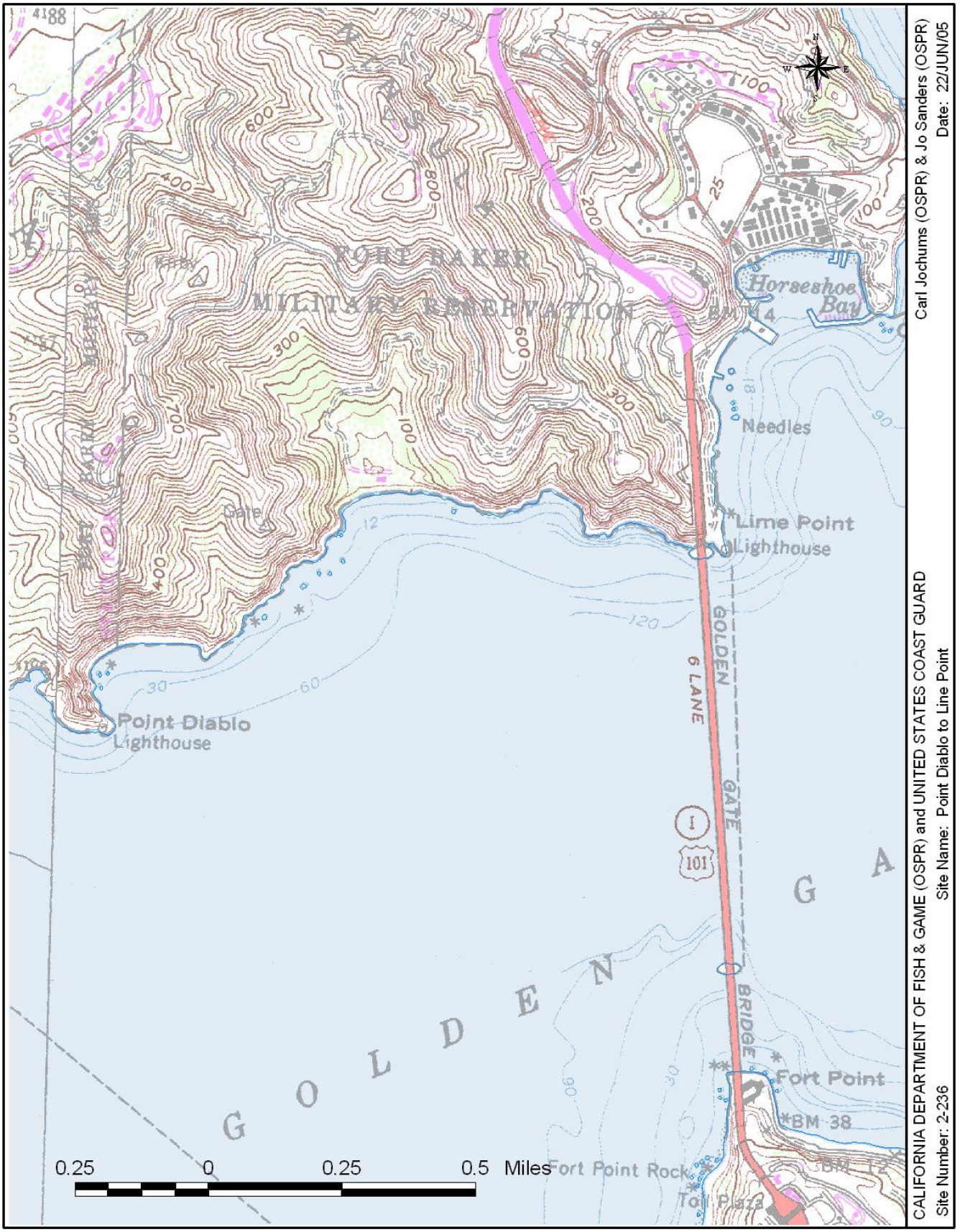
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging and access from on-water. Very limited shore access to beaches. Contact GGNRA for access through locked gates.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Developed March 1995. Strategy has not yet been tested or deployed.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Thomas Guide Location	Latitude N	Longitude W
	3 7 42	133 00

County: San Francisco County

USGS Quad: 7.5" Quad: Farallon Islands, CA

NOAA Chart: Gulf of the Farallones, 18645

Last Page Update : 1/1/1996

SITE DESCRIPTION:

Rocky islands 28 miles west of San Francisco including North, Middle, and Southeast Farallon Islands. The islands and surrounding waters are located within the Gulf of the Farallones National Marine Sanctuary and are part of both State and Federal Wildlife Refuges. Rocky islands, exposed to heavy surf from all directions. The largest island, Southeast Farallon Island, has rocky marine terraces and cliffs around much of the island. Middle and the North Farallon Island group are small rock island pinnacles (< 1/4 mile diameter).

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority all year for this group of islands and surrounding waters. They provide critical habitat for several species of seabirds and pinnipeds all year long. The Farallon Islands are the hallmark of the Gulf of the Farallones National Marine Sanctuary.

RESOURCES OF PRIMARY CONCERN

Seabird and pinniped habitat at risk all year. Seabirds most vulnerable to oil during breeding season (March - September). Pinniped habitat sensitivity periods are noted below.

The largest seabird colony in California (>155,000 birds in 1989). Habitat for 12 species of seabirds: ashy storm-petrel, Leach's storm petrel, Brandt's, double-crested and pelagic cormorants, black oystercatcher, western gull, common murre, pigeon guillemot, Cassin's auklet, rhinoceros auklet, and the tufted puffin. Seabirds are most vulnerable to oil during the breeding season, March - September.

Southeast Farallon Island provides breeding and foraging habitat for five species of pinnipeds. The northern elephant seal (breeding Dec-Mar) (molting May - August); California sea lion (Aug-June); Stellar sea lion (threatened; May-July); and harbor seal haul-out (year-round) on the island. The northern fur seals also haul out on the island occasionally (Oct - Mar). Greater than 10,000 pinnipeds use the islands year-round. A variety of whales, dolphins and porpoises are commonly found in the waters surrounding the islands.

A wide variety of seaweeds, fish, crabs, snails and other sealife are present on and around the island and washrocks. Great white sharks are common around the islands.

Intertidal plants and animals are diverse and abundant on the central California coast. Many seaweeds, mussel beds, barnacles, fish, abalone and other invertebrates can be found here.

Surface-canopy forming bull kelp beds and subtidal-canopy forming kelps are common.

CULTURAL. HISTORIC. and ARCHEOLOGICAL SENSITIVITIES

For specific information on any historic or cultural resources, contact the Gulf of the Farallones National Marine Sanctuary, and contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
TBELO	Joelle Buffa	US Fish & Wildlife Service, SF Bay Refuge	(510) 792-0222
	Joe Cordero	NOAA, National Marine Fisheries Service	
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
TBELO	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
B	Jan Roletto Research Coordinator	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Francisco County	Gulf of the Farallones, 18645	3 7 42	133 00

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Principal concerns are oil contamination and response activity impacts to seabirds, marine mammals, and other vulnerable intertidal plants and wildlife which are present throughout the year. The primary objective is to minimize exposure of oil to the natural resources present at the site. Other concerns are the impacts resulting from response activities. Avoid low flying aircraft/helicopters (<1000 ft) over the seabird colonies and marine mammal haulout areas. Avoid noisy boat traffic near the site.

HAZARDS and RESTRICTIONS:

Heavy surf and swell, washrocks, great white sharks.

SITE STRATEGIES

Strategy 2-240.1 **Objective: Prevent oil from stranding on rocky shoreline and contaminating seabird and marine mammal use areas.**

ACP DATE 1/1/2000

This site is difficult if not impossible to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Recommend alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-240.1	0	0	0	0	0	0	0	0	0		On-water Recovery / ART		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

No road access. Accessible only by boat. Rocky islands 28 miles west of San Francisco including North, Middle, and Southeast Farallon Islands. The islands and surrounding waters are located within the Gulf of the Farallones National Marine Sanctuary and are part of both State and Federal Wildlife Refuges.

LAND ACCESS: No land access

WATER LOGISTICS: Washrocks
Limitations: depth, obstruction

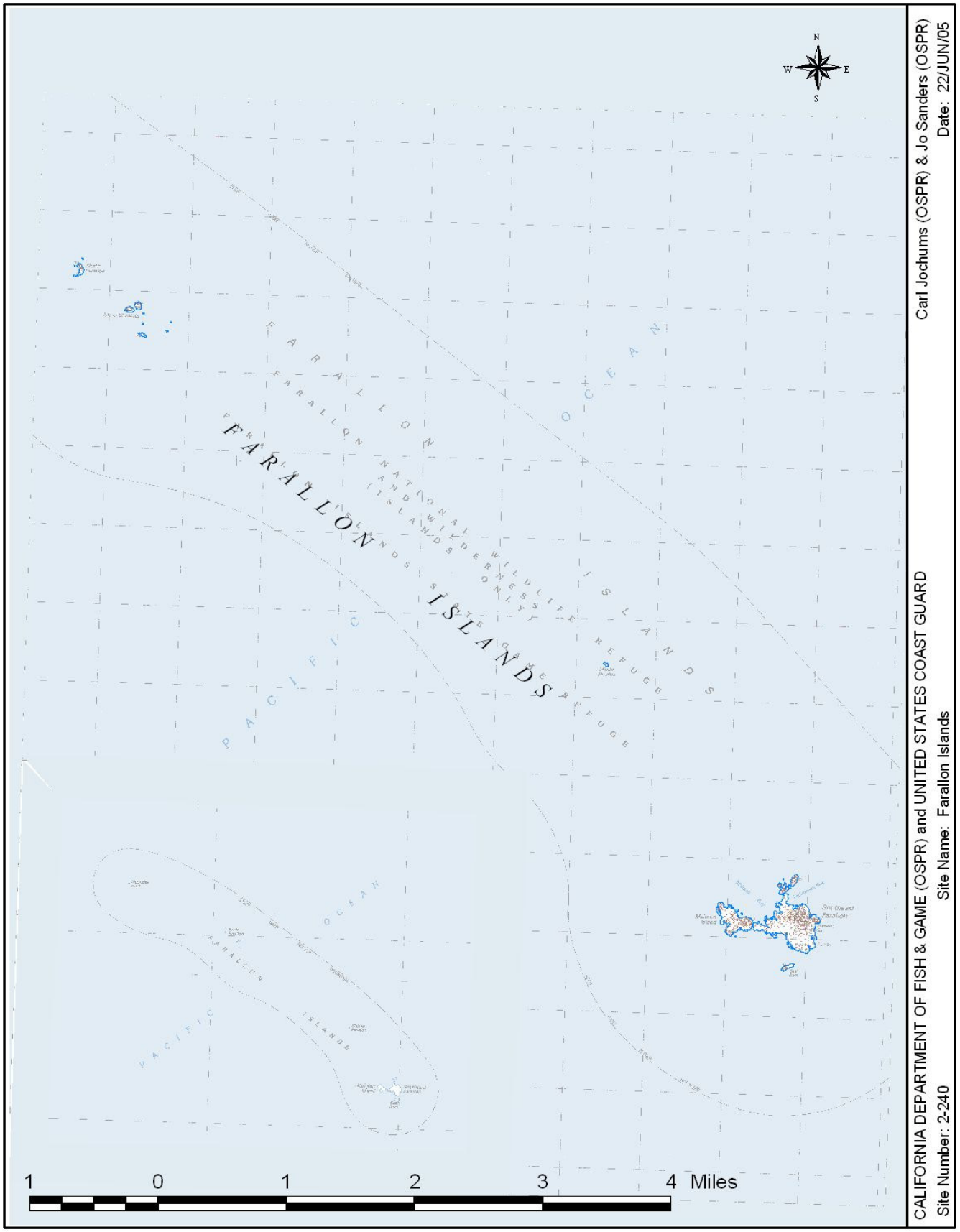
Launching, Loading, Docking and Services Available: Either transport by Coast Guard Cutter to Farallon Islands or charter vehicles for access. Coast Guard Station Golden Gate is the nearest SAR Station

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

No facilities, possible staging on the island.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-244 -A Site Summary- Land's End 2-244 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Francisco		3 7 47	122 30
USGS Quad:	Bonita, CA	NOAA Chart:	Gulf of Farallones18645, SF Bay 18649	

Last Page Update : 1/1/1994

SITE DESCRIPTION:

Land' s End is a group of small rocks islands offshore, washrocks, and vertical rock cliffs with sandy pocket beaches along the shoreline.

SEASONAL and SPECIAL RESOURCE CONCERN

Rookery most vulnerable March-July

RESOURCES OF PRIMARY CONCERN

Small seabird rookery (approximately 200 birds in 1980). Rookery of Brandt's cormorants, pigeon guillemots, and western gulls. Most vulnerable March - July.

Salmonids and striped bass nearshore.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Francisco	Gulf of Farallones18645, SF Bay 18649	3 7 47	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

HAZARDS and RESTRICTIONS:

On Land: Slips, trips and falls; Beware of auto traffic. Vessels: beware of submerged rocks.

SITE STRATEGIES

Strategy 2-244.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**

ACP DATE 7/1/1994

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-244.1	0	0	0	0	0	0	0	0	0		On-water Recovery / ART	0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

This site is just off the coast of San Francisco Land' s End is a group of small rocks islands offshore, washrocks, and vertical rock cliffs with sandy pocket beaches along the shoreline.

LAND ACCESS: Accessible by foot and boat only.

WATER LOGISTICS:

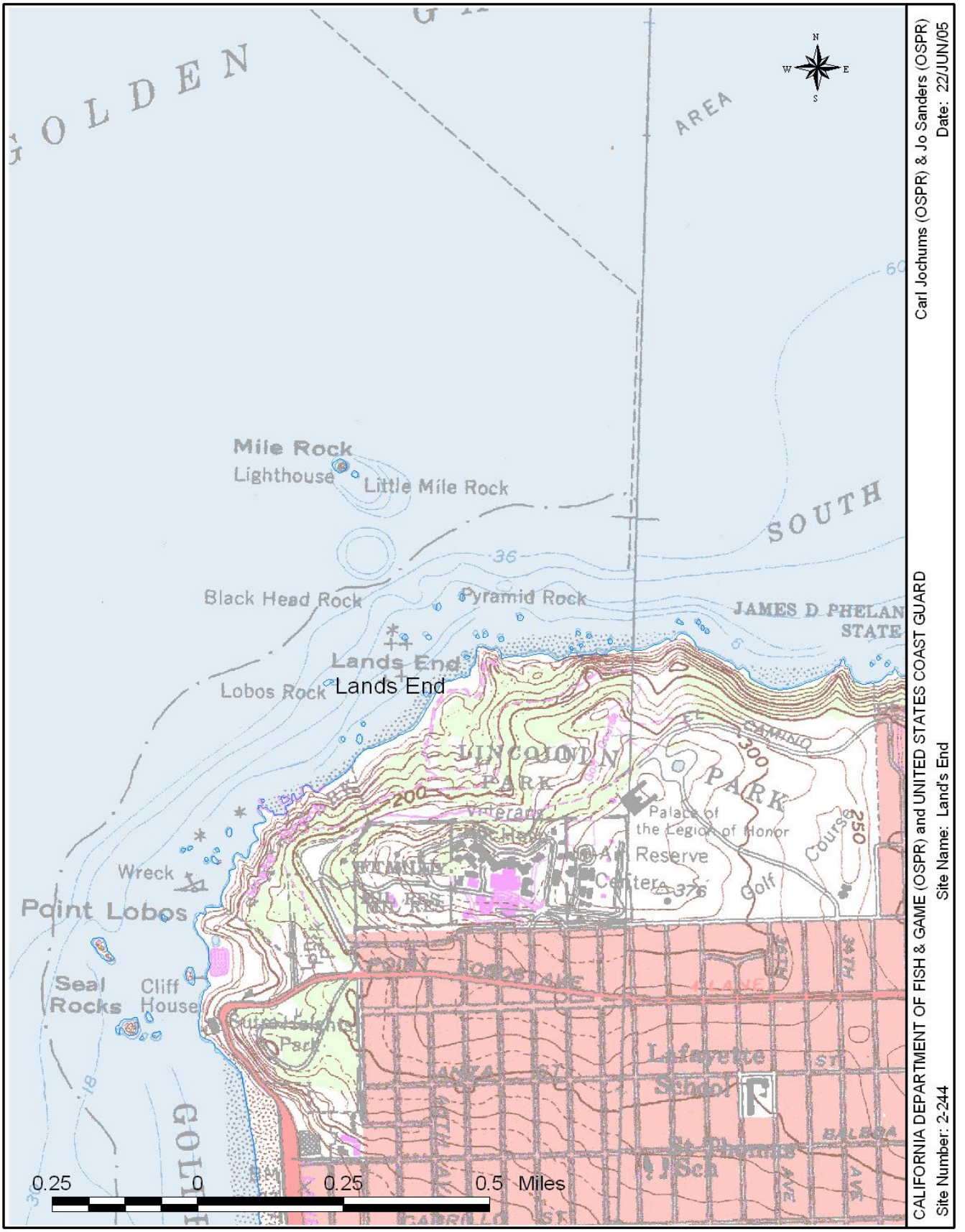
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: The Coast Guard Station Golden Gate is the closest SAR station.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Site Summary- Cliff House and Seal Rocks

2-246 -B

Thomas Guide Location	Latitude N	Longitude W
	3 7 47	122 31

County: San Francisco

USGS Quad: Point Bonita, CA

NOAA Chart: Gulf of Farallones18645, SF Bay 18649

Last Page Update : 1/1/1994

SITE DESCRIPTION:

This site is a group of large offshore rocks (<1/4 mile) and narrow wave-cut platforms along the shore just west of the Golden Gate Bridge. This is an exposed and high energy location. These rocks are used by pinepeds for pupping and haulout.

SEASONAL and SPECIAL RESOURCE CONCERN

This site is a "B" priority all year due to the presence of endangered brown pelicans and occassional use by pinnipeds.

RESOURCES OF PRIMARY CONCERN

This is exposed rocky habitat which fosters seabird bird nesting and pinnipeds as well as intertidal invertebrates.

Up to 100 Brandt's cormorants, western gulls, and pigeon guillemots nest on Seal Rocks. Endangered brown pelicans frequent this site as use it for resting and roosting.

California sea lion and harbor seals haul out here.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Francisco	Gulf of Farallones18645, SF Bay 18649	3 7 47	122 31

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

HAZARDS and RESTRICTIONS:

On Land: Slips, trips and falls; Beware of auto traffic. Vessels: beware of submerged rocks.

SITE STRATEGIES

Strategy 2-246.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**

ACP DATE 7/1/1994

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-246.1	0											On-water Recovery / ART	0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Use SF City streets to nearest land location (Contact Golden Gate National Seashores). Water traffic should approach this area from the Golden Gate. This site is a group of large offshore rocks (<1/4 mile) and narrow wave-cut platforms along the shore just west of the Golden Gate Bridge.

LAND ACCESS: total access capability for nearby the site.

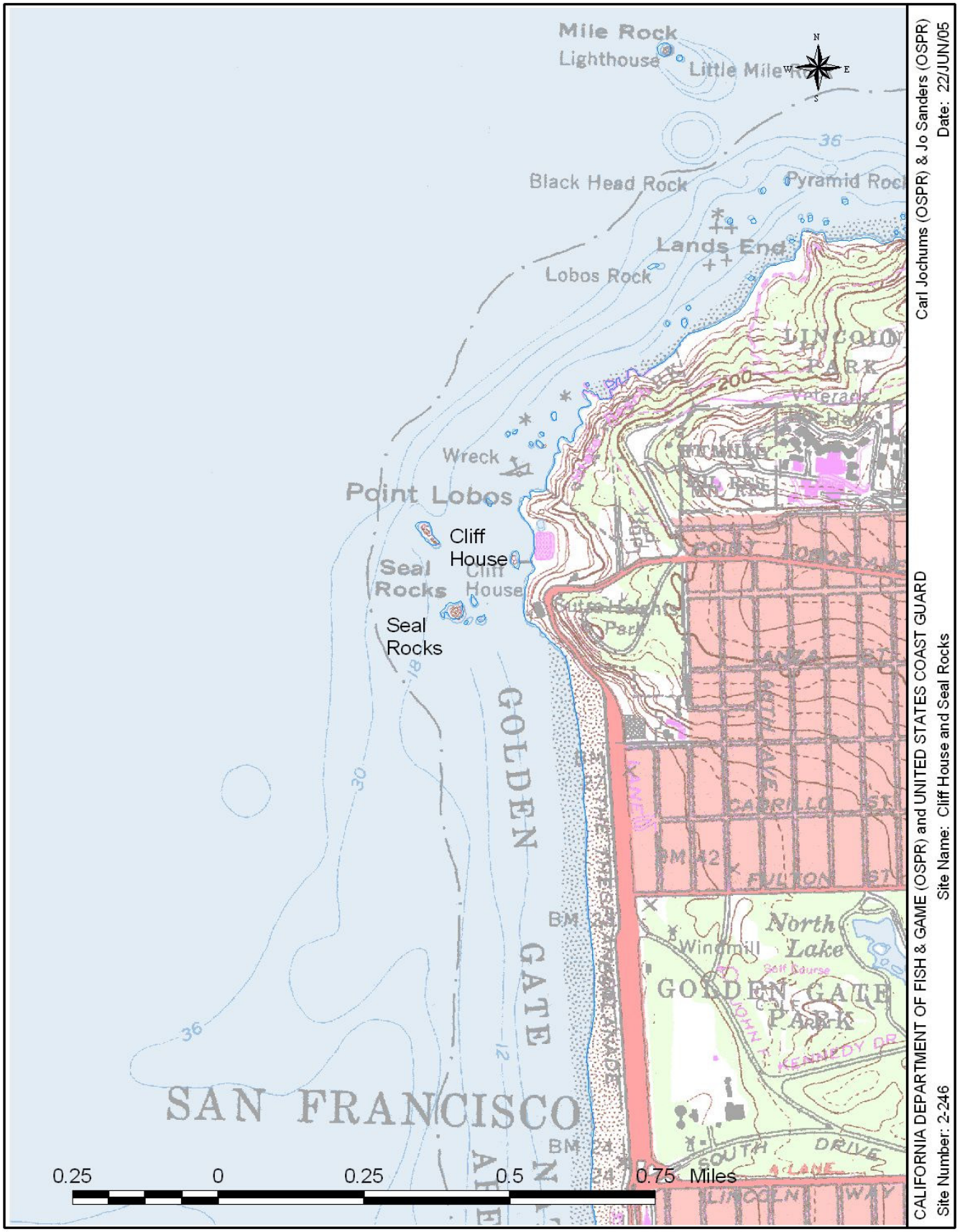
WATER LOGISTICS:
Limitations: depth, obstruction — adequate depths, but there are underwater obstructions

Launching, Loading, Docking and Services Available: all boat launching and marina facilities are inside the bay: Sausilitio and Lantern Cove at Marina Park

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-248 -A Site Summary- Ocean Beach/Fort Funston 2-248 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Francisco		3 7 45	122 30
USGS Quad:	Point Bonita, CA	NOAA Chart:	Gulf of Farallones18645, SF Bay 18649	

Last Page Update : 1/1/1994

SITE DESCRIPTION:

Sand beach backed by sandstone cliffs south of Sloat Blvd. Lengthy medium- to fine- grained sand beach backed by sandstone cliffs.

SEASONAL and SPECIAL RESOURCE CONCERN

Site is an "A" priority site due to the presence of threatened bank swallows from April - August, and threatened western snowy plovers from August - April.

RESOURCES OF PRIMARY CONCERN

Bank swallow habitat (April - August) and snowy plover habitat (August - April). Other seabirds include sanderlings, ringbill gulls, western gulls, marbled godwits, dowitches, willets, & scoters (Ocean Beach). Hundreds of scoters beyond surfline (Ft. Funston).

Bank swallow colony (<500), just south of Sloat Boulevard, is one of only two coastal colonies in California. Birds burrow in the sandy cliffs but also forage in the drift line of the beach (April - August). Snowy plovers inhabit ocean beach to the north from August to April. They forage in the wave swash at the water's edge.

Dune grass- small dune (Ocean Beach).

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive area. Contact the Golden Gate National Seashores main office, cultural resource specialist, the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Barrett Garrison	CA Dept. of Fish & Game	(916) 653-1738
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505
	Dan Murphy	Golden Gate Audubon Society	(415) 564-0074
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Francisco	Gulf of Farallones18645, SF Bay 18649	3 7 45	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

HAZARDS and RESTRICTIONS:

Aircraft- cliffs; boats- surf; trucks & heavy equipment- surf & very soft sand; pedestrians- surf and cliffs (Fort Funston). Aircraft- residential area; boats- surf; trucks & heavy equipment- surf & soft sediment (Ocean Beach).

SITE STRATEGIES

Strategy 2-248.1 Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-248.2 Objective: deflection booming

ACP DATE 7/1/1994

Secondary strategy = deflect the oil to skimmers at the north and south ends of the beach. If oil entrains by wave action it will flow toward the shore at flood tide, splashing oil along the Ocean Beach/Fort Funston coastline where cleanup crews will need to remove sand and fine-grain rock to a designated disposal site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-248.1	0	0	0	0	0	0	0		0	0		ART & On-Water Skimming	0	
2-248.2	0		6000 OB				1	1					8	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take I-880 to I-980 to SF/Oakland Bay Bridge, exit left at Hwy 101 south to I-280, exit right at Monterey Blvd., west-bound to a turn right at Serra Blvd., to a left turn at Sloat Blvd., west bound to left turn at Hwy 35 to a right turn at Herst Road exit. Enter Fort Funston for access to stage equipment and supplies. The beach is accessible by boat only. Sand beach backed by sandstone cliffs south of Sloat Blvd.

LAND ACCESS:

WATER LOGISTICS:

Limitations: depth, obstruction

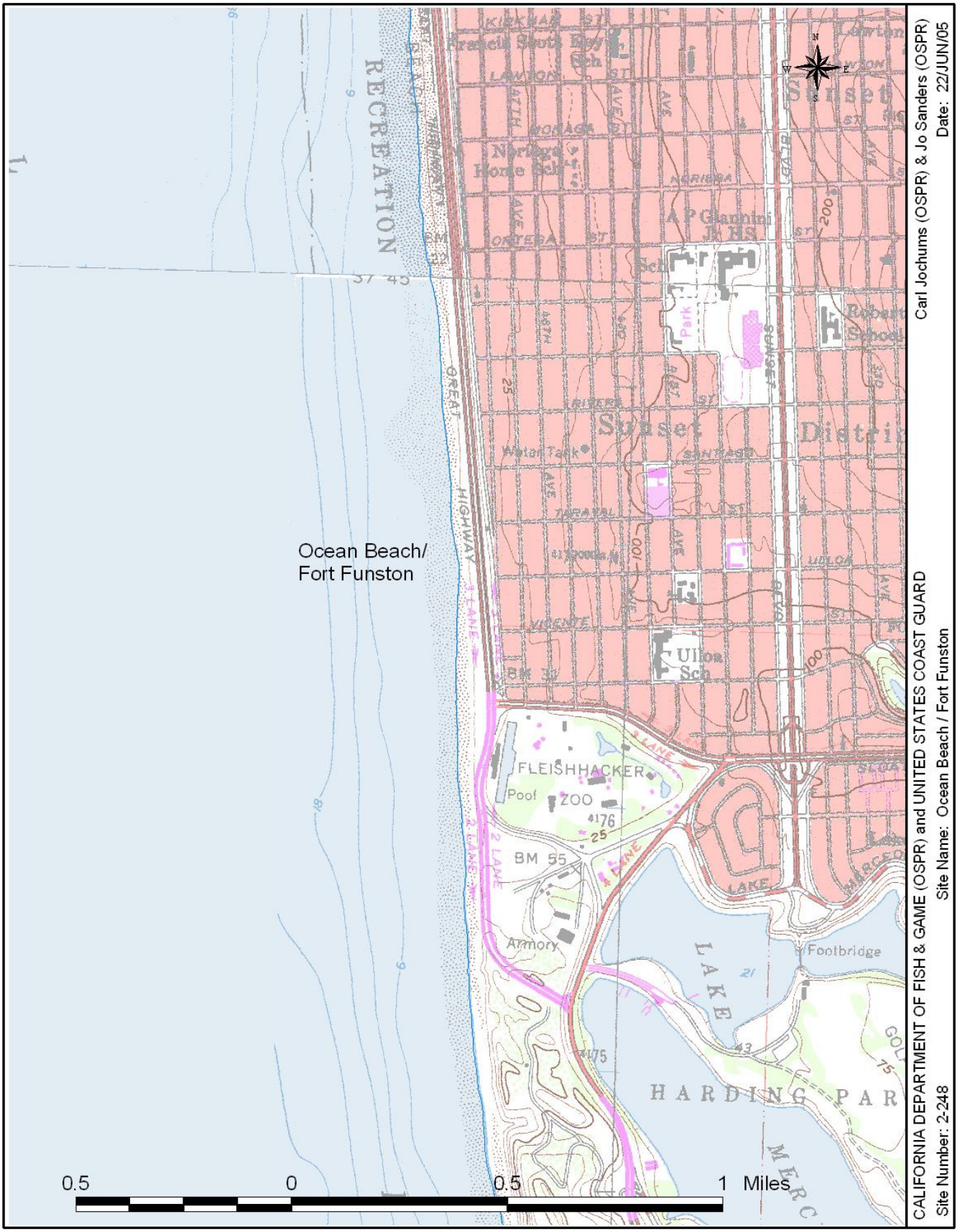
Launching, Loading, Docking and Services Available: The Coast Guard Station Golden Gate is the nearest SAR station, located near the Golden Gate Bridge (in Marin).

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Enter Fort Funston for access to stage equipment and supplies.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Site Summary- Thornton Beach State Park

2-250 -A

Thomas Guide Location	Latitude N	Longitude W
	3 7 42	122 30

County: San Mateo

USGS Quad: San Francisco South, CA

NOAA Chart: Gulf of Farallones18645, SF Bay 18649

Last Page Update : 7/1/1994

SITE DESCRIPTION:

This site is a long stretch of coarse-grained sand to granule beach. (Contact Park staff for details). The sand on this beach becomes progressively coarser and softer toward the south. Steep cliffs back the beach.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority March - August when surf smelt eggs are in sandy beaches. Seabird roosting area year-round.

RESOURCES OF PRIMARY CONCERN

Sandy beach habitat for surf smelt spawning (March - August). Seabird roosting and foraging area year-round.

Endangered California brown pelican, cormorant, and common murre foraging area offshore. Other seabirds include: sanderlings, scoters, marbled godwits, willets, ring-billed gulls, and wimbrels.

Striped bass, salmon, and smelt in nearshore waters year-round.

Ice plant, coyote bush, bush lupine.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are historic resources present.. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	DPR DISPATCH	CA State Parks, Candlestick Point (SRA)	(800) 548-1431
	Dispatch GGNRA	US National Park Service, Golden Gate (NRA)	(415) 561-5505
	Roger Nelson	CA State Parks, Half Moon Bay (SB)	(650) 726-8819

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	Gulf of Farallones18645, SF Bay 18649	3 7 42	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

There is potential for penetration and burial of oil on this beach.

HAZARDS and RESTRICTIONS:

Cliff swallows nest in the highly erodable cliffs at Fort Funston. Keep people away from these cliffs. Aircraft- cliffs; boats- heavy surf; trucks and heavy equipment- possible entrapment at high tide, no access from south, questionable from north; pedestrians- isolation at high tide, surf.

SITE STRATEGIES

Strategy 2-250.1 Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife — ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-250.2 Objective: Deflect oil past site to shore collection. — ACP DATE 7/1/1994

Place deflection boom along south edge of beach outward. Oil collection point: beach (coarse grain sand to granule). Use 50ft of oil snare (OS) and/or 100ft of sorbent boom to recover any oil that may accumulate. Consult IC if oil begins to accumulate in skimmable quantities.

Strategy 2-250.3 Objective: Oil Recovery by skimming — ACP DATE

If oil accumulates in skimmable quantities as a result of stategies .2, contact IC prior to initiating strategy to deploy skimmer. Position skimmer at south end of bridge.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-250.1	0										On-water Recovery / ART	9	
2-250.2	0		1050 OB	100			2	0				6	
2-250.3	0	0	0	0	0		0	0	1	SSS 0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Hwy 35 to John Dailey Blvd in Daly City. Turn seaward and park at locked gate. Hike around gate and follow trail to Beach or take Sloat Blvd or Hwy 35 to the Great Hwy in San Francisco, go to southern-most parking lot on Great Highway. There is vehicle access to beach here. Hike or drive south to Thornton State Beach. This site is a long stretch of coarse-grained sand to granule beach. (Contact Park staff for details).

LAND ACCESS:

WATER LOGISTICS:

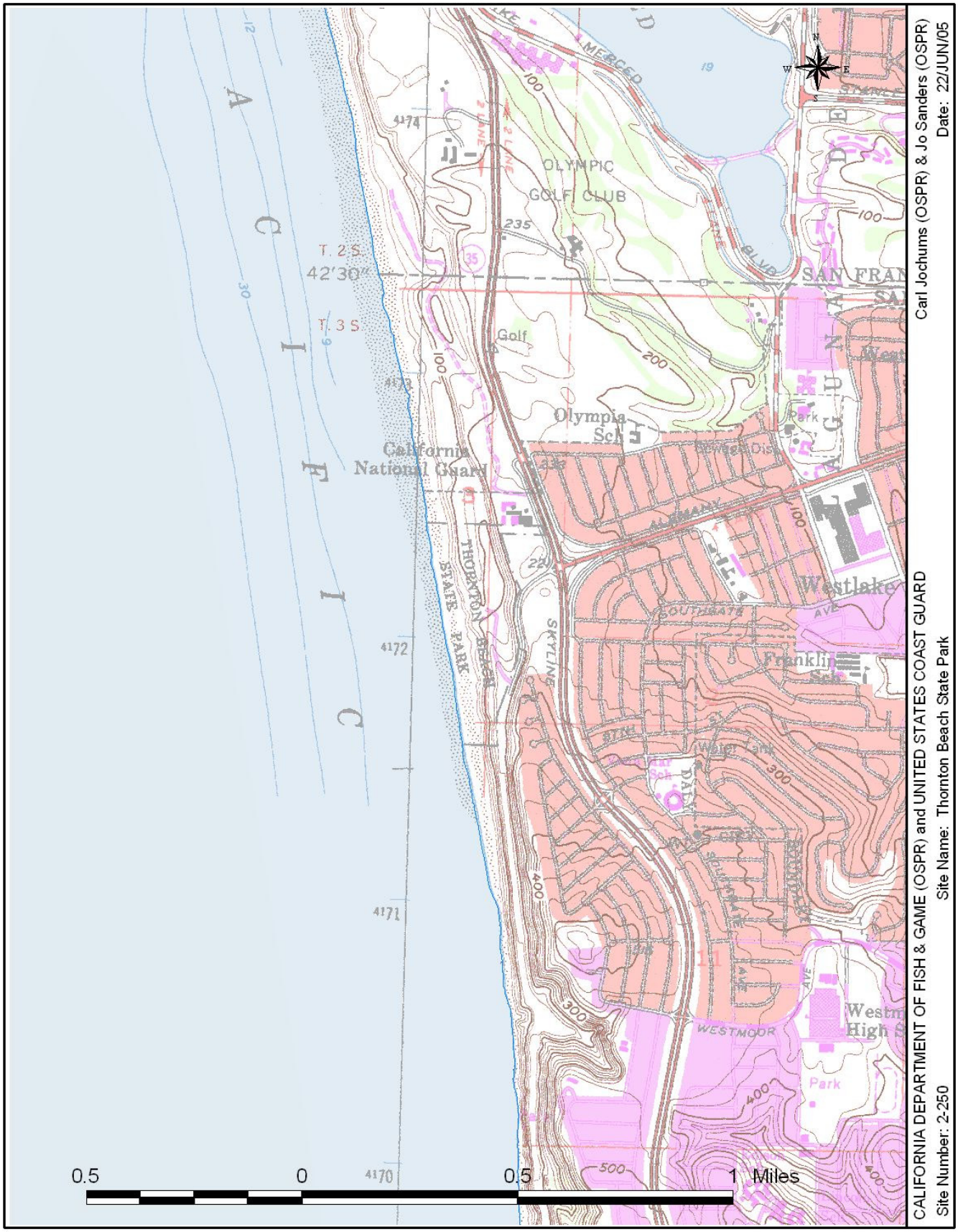
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available:

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


Carl Jochums (OSPR) & Jo Sanders (OSPR)
Date: 22/JUN/05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Name: Thornton Beach State Park
Site Number: 2-250
PACIFIC
OLYMPIC GOLF CLUB
California National Guard
Olympia Sch
Westlake
Franklin Sch
Westmoor High Sch
THORNTON BEACH STATE PARK
SKYLINE
WESTMOOR
T. 2 S.
T. 3 S.
42'30"
0.5 0 0.5 1 Miles
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 36	122 30
USGS Quad:	Montara Mountain, CA	NOAA Chart:	18645,18680 Gulf of Farallons, Sur-SF	

Last Page Update : 1/1/2000

SITE DESCRIPTION:

The site includes San Pedro creek mouth on Lindamar Beach and includes to riparian corridor upstream and above the Hwy 1 bridge. Creek flows though the lagoon (upstream of the Hwy 1 bridge) which is surrounded by riparian vegetation and though several bridges then though an urbanized channel to discharge across an medium to low sloping beach to ocean. Creek is open to ocean seasonally, primarily in winter.

SEASONAL and SPECIAL RESOURCE CONCERN

This anadromous fish stream is a B priority year-round. Adult fish will enter lagoon and creek from November to April. Smolts are in lagoon all year long. Salmonid smolts are in stream year-around.

RESOURCES OF PRIMARY CONCERN

This small creek's mouth opens to spill down a medium sloping beach to the ocean embayment, and there is a lagoon and riparian corridor east of the highway. The lagoon is seasonally open to the ocean in rainy season. These provide locally rare habitat for steelhead and riparian species.

Typical marsh species of birds, mammals and amphibians may be found in the riparian portion. Gull species aggregate at the mouth when tides expose the beach.

Small runs of steelhead trout migrate upstream from November to January, while downstream migrants use the creek from February to May, and smolts are present year-round. This is a successful salmonid restoration example.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
B	Jennifier Nelson	CA Dept. of Fish & Game	(408) 649-7153

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18645,18680 Gulf of Farallons, Sur-SF	3 7 36	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Keep oil out of the creek because it is a steelhead trout stream year-around. Use booms or sediment dikes to keep oil out of creek. Use diversion booms off the beach if necessary to keep oil away from creek. The beach to the south is a natural collection site.

HAZARDS and RESTRICTIONS:

Slips, trips and falls. Beware of auto traffic.

SITE STRATEGIES

Strategy 2-253.1 **Objective: Exclude oil with boom from creek and riparian corridor during modest flow conditions.** ACP DATE 1/1/2000

Boom creek with multiple layers curtain and sorbent boom as far seaward in the creek as possible. Set boom at an angle to flow to avoid entrainment. Access facilitates the use of a shore side skimming system if necessary.

Strategy 2-253.2 **Objective: Exclude oil using sediment dike when high surf pushing up into creek mouth** ACP DATE 1/1/2000

Erect sediment berm across the creek mouth with flow-through siphon preferably with sandbags or with loose sediment. Use boom to control any Evaluate feasibility of deflection boom off shore to divert oil past creek mouth toward south end of beach. Good access facilitates the use of a shoreside skimming system and vacuum truck if necessary.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-253.1	0	50		50								8 stakes	2	
2-253.2	0	0			0							culvert & sandbags or front end loader.	3	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Highway 1 to Pacifica. Park on seaward side of Highway between Linda Mar Blvd and San Pedro Av. Creek Flows under highway between these two intersections. The site includes San Pedro creek mouth on Lindamar Beach and includes to riparian corridor upstream and above the Hwy 1 bridge.

LAND ACCESS: all traffic - good access from Hwy 1 and adjacent parking lot.

WATER LOGISTICS: Dependent on Surf
Limitations: depth, obstruction

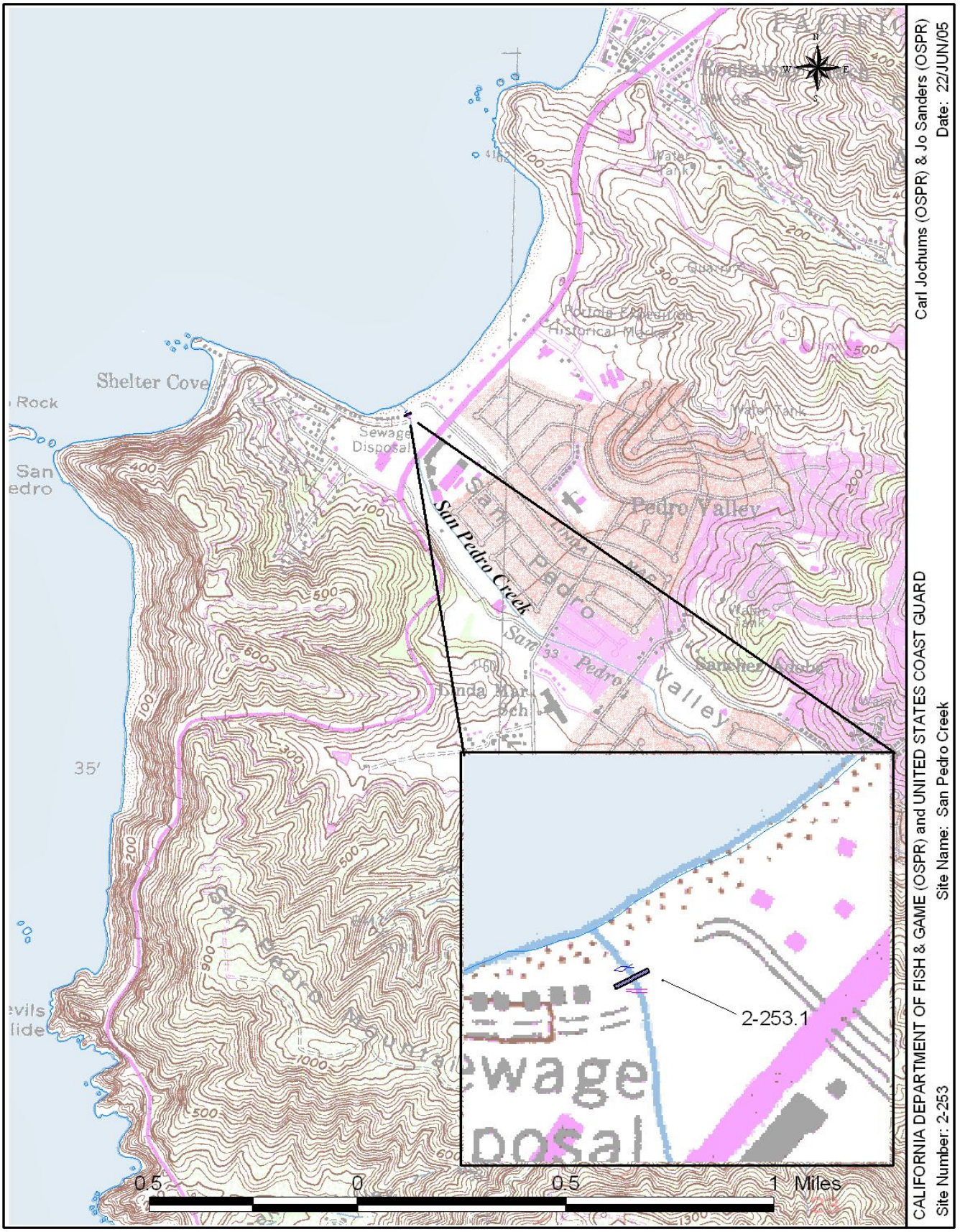
Launching, Loading, Docking and Services Available: City services available nearby. No launching necessary.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Parking lots at mouth will be adequate staging site for this and beach cleanup. Lots of support services including fast food are nearby.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Site Summary- Shelter Cove & San Pedro Rock

2-255 -B

Thomas Guide Location	Latitude N	Longitude W
	3 7 36	122 30

County: San Mateo

USGS Quad: Montara Mountain

NOAA Chart: 18645,18680 Gulf of Farallons, Sur-SF

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This site is the crescent cove between San Pedro Point and rocks and a second bounding rocky headland just to the north. The gravel beach between the two headlands is exposed to substantial wave action. The back beach is a sand beach. Cliffs rise steeply from the beach. The rocky headlands which extend seaward on each side like a row of teeth, are heavily used by birds for nesting and roosting. This site is very inaccessible to any approach: a considerable hike by foot, possible ATV, or rappel down from above. Homes are along the beach. This is a natural collection site: if oil comes ashore, Shelter Cove will act as a natural collection point

SEASONAL and SPECIAL RESOURCE CONCERN

RESOURCES OF PRIMARY CONCERN

Gravel beach and off shore rocks with bird colonies are the habitats of concern.

Offshore bird colonies: gulls and cormorants. Pelicans roost on rocks.

This is an important beach for little neck clams in the low intertidal gravel beach.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
B	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18645,18680 Gulf of Farallons, Sur-SF	3 7 36	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

If oil comes ashore, Shelter Cove will act as a natural collection point. If oil reaches this beach, it will penetrate deeply into the gravel beach and kill important clam populations. Sea birds use the rocks. So, keep oil off the beach, divert it to other places if possible. Minimize disturbance to birds on the rocky headlands.

HAZARDS and RESTRICTIONS:

Beware of the steep slopes: steep eroding cliffs with single lane foot traffic.

SITE STRATEGIES

Strategy 2-255.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife** ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-255.1	0	0	0	0	0	0	0	0	0			0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

South Pacifica on Highway 1 to Lindamar Beach District - West on San Pedro Ave. Right on Dammann Ave, Left on Shelter Cove Rd.
Park at end of Road and follow trail to Shelter Cove. Foot access (stairs) from top of hill off Blakburn off San Pedro. An excellent vantage point of the cove and rocks can be accessed by continuing on San Pedro Ave, turning left on Kent and following it until it ends at Blackthorne Terrace. This site is the crescent cove between San Pedro Point and rocks and a second bounding rocky headland just to the north.

LAND ACCESS: Foot only on eroding road/down stairs. Possible ATV use. Locked gate

WATER LOGISTICS:
Limitations: depth, obstruction: off shore rocks, high surf may be dangerous to boat traffic.

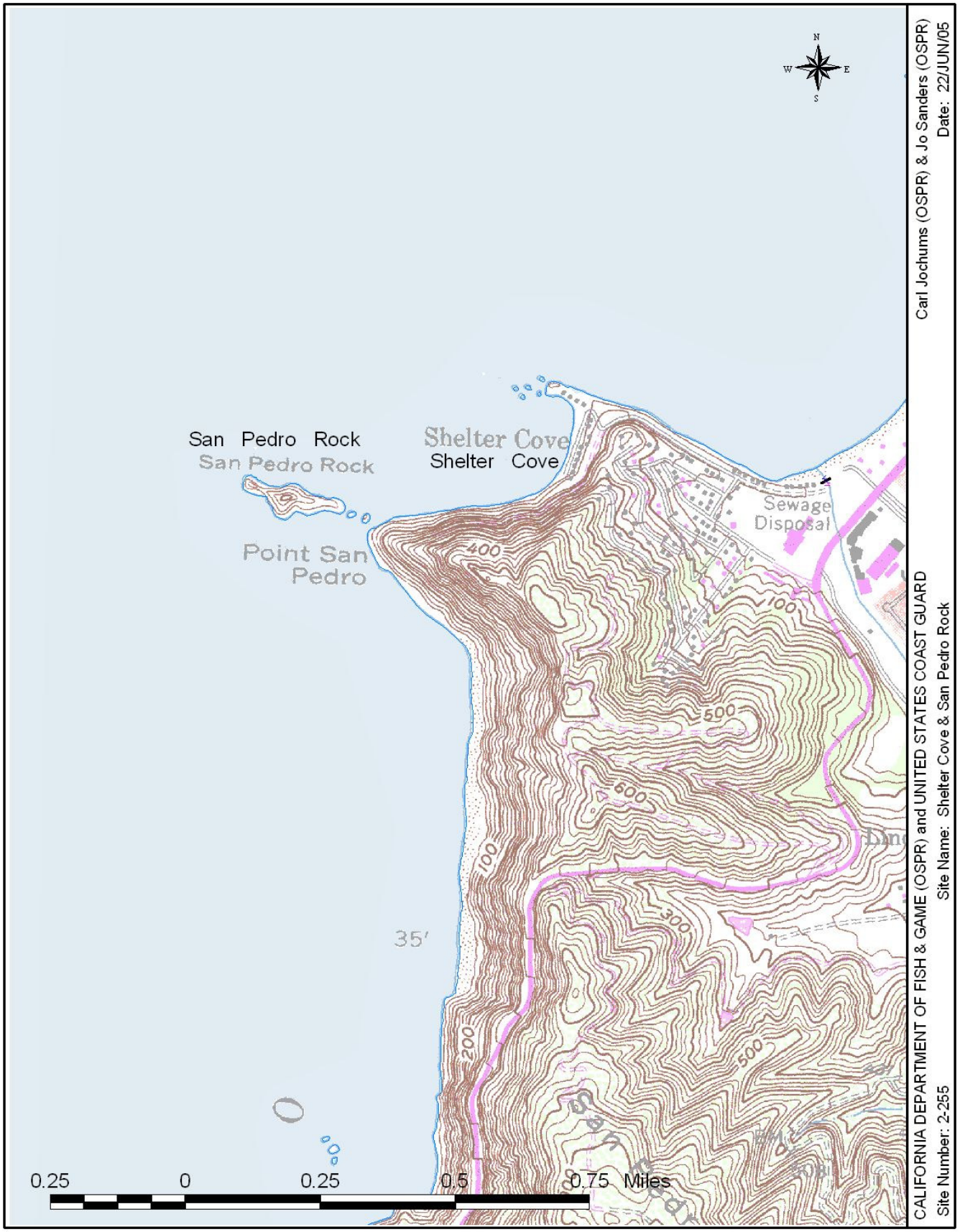
Launching, Loading, Docking and Services Available: Nearest boat ramp facilities are Pillar Pt Harbor. Skiffs can be launched across Lindamar Beach near the outlet of San Pedro Creek in favorable conditions.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

No facilities or staging areas. This site is very inaccessible.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Thomas Guide Location	Latitude N	Longitude W
	3 7 32	122 31

County: San Mateo

USGS Quad: Montara Mountain

NOAA Chart: 18645,18680 Gulf of Farallons, Sur-SF

Last Page Update : 1/1/2000

SITE DESCRIPTION:

The site extends from Point Montara south to the light station. Exposed rock cliffs with wave cut terraces and pocket beaches. Beaches composed of coarse sand, granules, pebbles, Cobbles, and boulders. Low cliffs rise abruptly from beaches and surf zone. The area is exposed to aggressive surf and wave action. This site is part of Montara State Beach. The Montara Youth Hostle is situated on the cliff top above.

SEASONAL and SPECIAL RESOURCE CONCERN

RESOURCES OF PRIMARY CONCERN

This piece of rocky coastline has wave-cut platforms and small coarse-grain pocket beaches with typical intertidal geology and biota. Coarse grain beaches are vulnerable to deep penetration of oils. This site is exposed to severe surf conditions seasonally.

Harbor seals haul-out on rocks throughout this area as sea conditions permit.

As is characteristic throughout this area, there is a rich rocky intertidal community here.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Bob Breen	James Fitzgerald Marine Reserve	(650) 728-3584
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	DPR DISPATCH	CA State Parks, Candlestick Point (SRA)	(800) 548-1431
	Main Offic GFNMS	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622
	J. T. Harvey, Ph.D	Moss Landing Marine Laboratories	(831) 755-8650

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18645,18680 Gulf of Farallons, Sur-SF	3 7 32	122 31

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is the oiling of harbor seal haulouts. Oil may also penetrate course sediment beaches and cause asphalt formation. Because of the difficulty of protecting or cleaning this site due to cliffs, obstructions and sea conditions, the primary strategy is to deal with oil before it impacts the shore using alternative and conventional technologies.

HAZARDS and RESTRICTIONS:

This is a rocky, cliffy coastline with slip and fall hazards and submerged obstacles to boat traffic. Aggressive surf can be hazardous to beach and nearshore personnel.

SITE STRATEGIES

Strategy 2-258.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-258.1	0	0	0	0	0	0	0	0	0			ART & On-Water Skimming		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Highway 1 in the city of Montara, turn west between 13th and 14th St. into unnamed driveway which leads to the Pt Montara Youth Hostel. Access by boat or from Pt. Montara Youth Hostel. The site extends from Point Montara south to the light station.

LAND ACCESS: Vehicle access to frontage road/through dunes to cliff drop-offs.

WATER LOGISTICS: cliffs and underwater rocks and wave-cut platforms.
Limitations: depth, obstruction

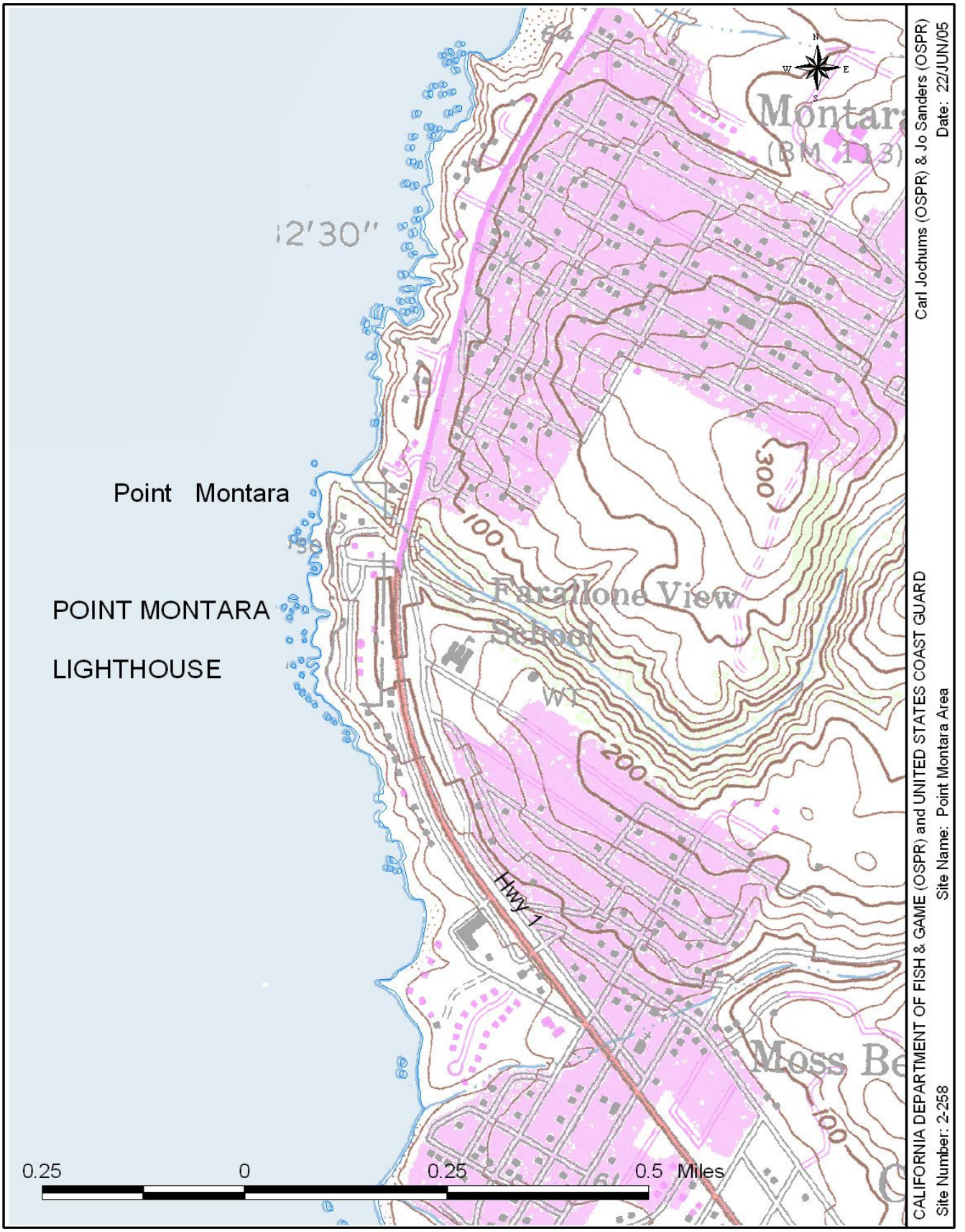
Launching, Loading, Docking and Services Available: Nearest launching is Pillar Pt Harbor. Under favorable conditions, skiffs can be launched across the beach at Lindamar Beach

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Best staging, equipment and services are available at Pillar Pt. Harbor and Half Moon Bay Airport.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 30	122 30
USGS Quad:	Montara Mountain	NOAA Chart:	18645,18680 Gulf of Farallons, Sur-SF	

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This site includes all of James Fitzgerald Marine Reserve to Pillar Point beginning at a point about 100 yards north of the parking area to the south foot of Pillar Point. This entire site is wave cut rock platforms backed by mixed sand and gravel beaches at the toe of sharply rising cliffs. It overlies most of the James Fitzgerald Marine Reserve (San Mateo County ownership). The biota are those typical of wave cut platform environments. This area is very important as a scientific study site: decades of study have been done at this site and many type species come from this locale. This site receives thousands of student visitors every year as well as being a favorite stopping point for beach visitors. San Vincente Creek drops precipitously to the beach level at the parking area. The Reserve office is at the parking area at the end of California Avenue.

SEASONAL and SPECIAL RESOURCE CONCERN

B priority year round.

RESOURCES OF PRIMARY CONCERN

Fitzgerald Marine Reserve includes extensive tide pools and surfgrass. The wave-cut platform tide pools have provided very important scientific and educational benefits for decades. The coarse grained beaches and rocky exposures provide habitat for birds and pinnipeds as well as the diverse intertidal fauna.

The beaches and cliffs rising steeply above provide resting, roosting and nesting for gulls, common murres, and black crowned night herons.

Harbor seals haul-out here: as many as 500-600 harbor seals at haulout.

Richly diverse rocky intertidal and tide pool fauna are found here. Many type specimens were collected here.

Surf grass and algae populate the rocky platforms.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

This is a culturally sensitive site: middens at St. Vicinte Ca 132 , Moss Beach 134, and on bluffs: 7000-9000 years old. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653 9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664 0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
B		Empty	
TEBLC	Bob Breen	James Fitzgerald Marine Reserve	(650) 728-3584
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
L	CenCom DPR DISPATCH	CA Dept. of Parks & Recreation	(831) 649-2817
ELBCT	Office Fitzegerald Marine Reserv	Fitzgerald Marine Reserve	(650) 728-3594
B	J. T. Harvey, Ph.D	Moss Landing Marine Laboratories	(831) 755-8650
TEBLC	Kendall Simmons	James Fitzgerald Marine Reserve	

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18645,18680 Gulf of Farallons, Sur-SF	3 7 30	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The main concern is oil and cleanup impacts on tidepool and intertidal community which would damage the sealife and scientific continuity of this site. Coarse grain beaches are vulnerable to burial/penetration. Oil on seal haulout areas would threaten seals. Cleanup could be as damaging as oil. Best response is to deal with oil before it comes to shore.

HAZARDS and RESTRICTIONS:

Steep cliffs and rocky beaches are perpetual slip, trip and fall hazards. Aggressive surf also poses hazards to beach traffic.

SITE STRATEGIES

Strategy 2-260.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-260.1	0	0	0	0	0	0	0	0			ART & On-Water Skimming		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

In Moss Beach, turn off Hwy 1 toward beach at California Ave (at sigh to Fitzgerald Marine Reserve) and right again at North Lake. Moss Beach access / Fitzgerald Marine Reserve is at end of street. There are two other access points: at Cypress Ave in Moss Beach; and through Pillar Point Harbor: take Capistrano Rd. to Prospect Way, left on Broadway, right on Princeton and right on West Point Ave. This site includes all of James Fitzgerald Marine Reserve to Pillar Point beginning at a point about 100 yards north of the parking area to the south foot of Pillar Point.

LAND ACCESS: limited access points. Limited to foot and 4wd

WATER LOGISTICS:
Limitations: depth, obstruction: waves and rock outcrops

Launching, Loading, Docking and Services Available: launch from Pillar Point

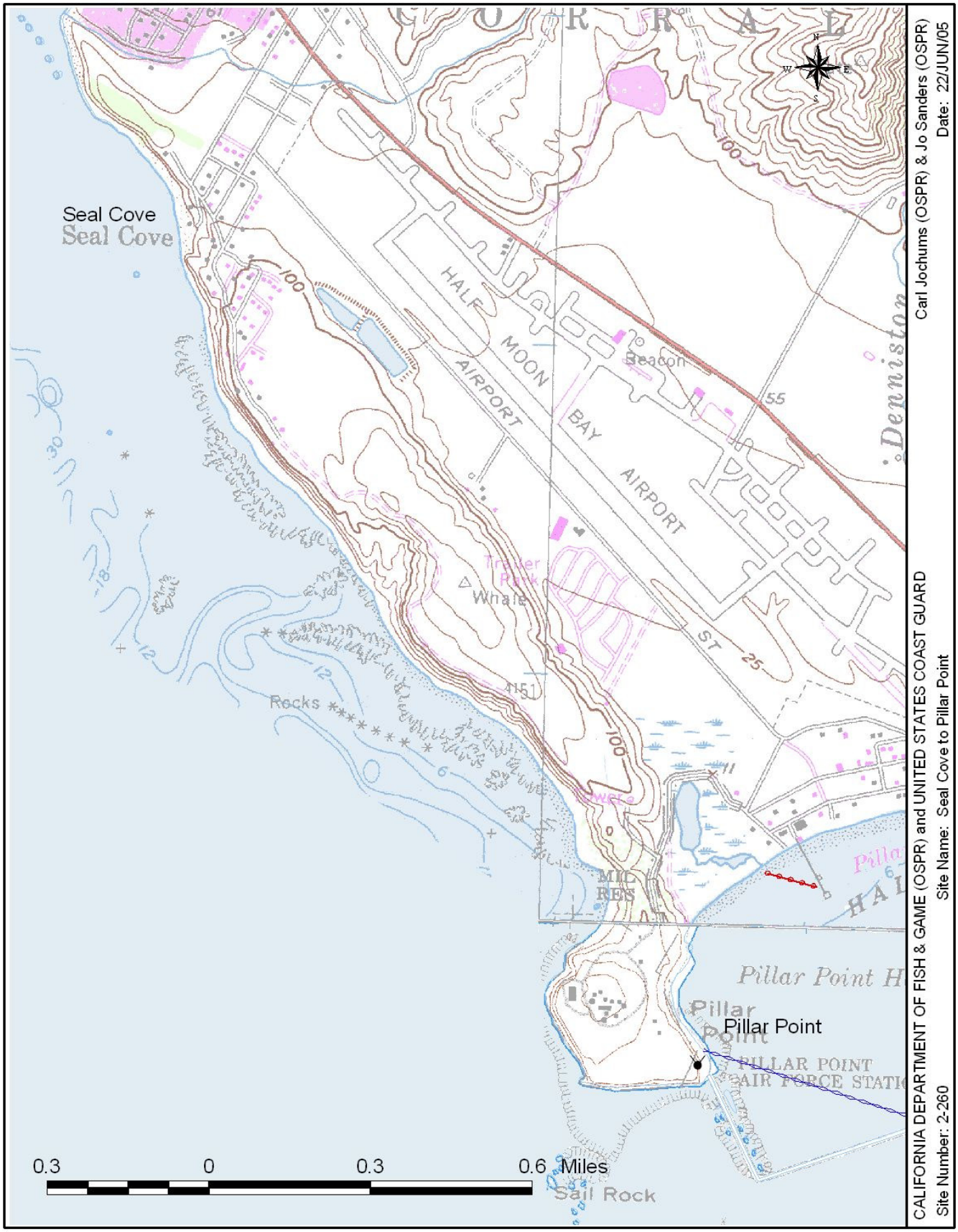
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Best staging, equipment and services are available at Pillar Pt. Harbor and airport. Local staging may best be located at James Fitzgerald Marine Reserve Office parking lot or the new parking lot at the end of Cypress Avenue.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

James Fitzgerald Marine Reserve parking lot.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-262 -A Site Summary- Pillar Point Marsh & Denniston Creek 2-262 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 30	122 30
USGS Quad:	Montara Mountain	NOAA Chart:	18645,18680 Gulf of Farallons, Sur-SF	

Last Page Update : 1/1/2000

SITE DESCRIPTION:

Pillar Point Marsh is a 20 acre salt marsh with 50 foot wide inlet to harbor at the east end of its 700' beach front. It is located a the west corner of the outer harbor breakwater. Denniston Creek's 30ft creek mouth enters the harbor just west of the marina. Pillar Point Marsh is a saltmarsh wetland on the south side of West Point Avenue and fresh water marsh on the north side. Dune grasses and sand humhocks front the harbor for about 700' with a wide, low sloping, fine-grained beach favored by beach walkers. There is a recess and 50-100' opening though the dune grass barrier at the east end of the beach which has flow only during rainy periods or during very high tides. The saltmarsh portion has pickle weed and other saltmarsh species and standing lagoon inside year around. The freshwater portion is dense with cattails and willows. The marsh is part of Fitzgerald Marine Reserve and is manage by that staff.

Denniston Creek is a small urbanized stream running through the town of Princeton into Pillar Point Harbor. The riparian corridor quality tends to improve upstream. The stream gradient from the bridge to the harbor is quite positive, and there is usually a positive outward flow; both making oil threat minimal from harbor. Never the less, the presence of steelhead and San Francisco garter snake have necessitated that this site remain a focus of concern for harbor and upstream spills and collateral response impacts.

SEASONAL and SPECIAL RESOURCE CONCERN

Marshes are A-priority year around. Steelhead trout run in Denson Creek November to May.

RESOURCES OF PRIMARY CONCERN

The most sensitive aspect of this site are the marsh and the creek, though the entire breakwater enclosure has a multitude of bird, fish and animal life. The saltmarsh-pickleweed marsh, is an uncommon remnant of coastal marshes in this portion of the coastline. Its upper freshwater marsh is also important and uncommon habitat, as is Denniston Creek and its riparian corridor. These habitats provide important habitat refuges for a variety of species including several species and populations which are threatened. The outer breakwater is a favorite roosting site for sea birds.

California brown pelicans as well as cormorants, and gulls favor the breakwater as a roosting site. Grebes, loons, ducks, and cormorants shelter and feed in within the breakwater. In the marshy areas the saltmarsh common yellowthroat nests and lives year round.

Although California sea otters occasionally forage within the breakwater, the main concerns are for the San Francisco garter snakes at Denson Creek and the freshwater reaches of Pillar Pt. Marsh. Red legged frogs also occur in the freshwater marsh.

Denson Creek supports a steelhead trout run. Adults spawn from November to May.

There are commercial abalone rearing facilities within the breakwater.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are sensitive cultural sites along coastline to Pillar Point. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
B		Empty	
B	Baylands Nature Preserve Office	Baylands Nature Preserve	(650) 329-2506
TBELC	Bob Breen	James Fitzgerald Marine Reserve	(650) 728-3584
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
LO	Mark Duina	San Mateo, County of, Planning and Buildling	(650) 363-4161
LO	Ellen Faurot-Daniel	CA Coastal Commission	(415) 904-5285
	Sam Hershberg	San Mateo, County of, Planning and Buildling	(650) 363-4161
B	Bob Pine	US Fish & Wildlife Service, Endangered Species	(916) 979-2752
TBELC	Kendall Simmons	James Fitzgerald Marine Reserve	
ELT	Dan Temko	Pillar Pt. Harbor	(415) 726-5727

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18645,18680 Gulf of Farallons, Sur-SF	3 7 30	122 30

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The primary concern is oil carried into Pillar Pt Marsh and Denson Creek on high water or aggressive surf occasions. Keeping oil out of the breakwater would reduce threat to sensitive sites and marina, aquaculture, and other creatures as well. There is a strong tidal current though the breakwater entry, but the breakwater is porous and can admit. Damage and disturbance to plants, wildlife, and aquatic life during response is always a concern.

Oiling of willows into marsh hundreds of yards up creek.

HAZARDS and RESTRICTIONS:

This is an urban environment with traffic concerns.

SITE STRATEGIES

Strategy 2-262.1 **Objective: Exclude oil from marsh by sediment dike across marsh mouth.** ACP DATE 1/1/2000

Keep oil from being carried into the marsh on high tide by erecting a 100ft long low sand berm. This has been successfully accomplished in the past by scraping local sand with a bulldozer. A culvert may be necessary to permit outflow from marsh. A secondary smaller berm farther back from the beach could be erected using hand labor. (Contact Harbor Master for help) This work must be accomplished before high tide when construction activity will not be possible.

Strategy 2-262.2 **Objective: Keep oil out of Denniston Creek** ACP DATE 1/1/2000

Denniston Creek - 50 ft of harbor or river (swamp) boom across creek mouth. Back with 50ft sorbent and a second layer of curtain boom as necessary.

Strategy 2-262.3 **Objective: Divert oil away from marsh opening.** ACP DATE 1/1/2000

Generally there is a light clockwise current and very light wave action in the harbor. Use this current pattern to deflect oil away from marsh mouth by deploying Hboom boom from the high beach (grass line) 25' west of the mouth, at a diagonal to a point about 100' out on the pier.

Strategy 2-262.4 **Objective: Exclusion/collection to Keep oil from entering harbor though breakwater entry - booming without closing mouth to harbor traffic.** ACP DATE 1/1/2000

Overlapped cascaded boom at breakwater entry to divert oil to catchment without blocking vessel passage. Deploy a boom at an angle two-thirds of the distance across the channel from just inside of breakwater jetty toward the easterly breakwater. Deploy a second boom halfway across the channel from the easterly breakwater, lapping the other boom but leaving enough room to allow vessels to drive around the booms. Create a collection pocket by extending the boom end and adding a flanking length. Station a skimming vessel to collect oil.

Strategy 2-262.5 **Objective: Protection booming of inside of breakwater if heavy oil is likely to pass though the breakwater - line inside breakwater with boom. This will require considerable resources.** ACP DATE 1/1/2000

Deploy river (swamp) boom along the inside of the breakwater. Make shore collection sites at north and east beachfall lined with sorbents for land collection.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-262.1	0	0	0	0	0	0	0		0	0		bulldozer (and, as necessary, a culvert)	2	
2-262.2	0	50				stake to keep from catinary sag.							2	
2-262.3	500						1	1					5	
2-262.4	500				9	2/50+ & 7/22 danforths + 20' chains	1	1	1	vessel sk			5	
2-262.5	0	12300		200	13	13/12+/danforths & stakes	2	2					10	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 1 north from Hwy. 92 past Half Moon Bay to Capistrano Rd. Turn on Prospect Way. You will cross a bridge over Denson Creek just after turning left on Broadway. Continue right on Princeton and right on West Point Ave around the marsh to the marsh to parking lot. There is a locked gate (contact harbor master) in the parking lot which permits vehicle access to beach and Pillar Pt.

Denniston Creek - Hwy 1 north from Hwy 92. Left on Capistrano St. Turn left onto Prospect Way. Access via Broadway street next to creek. Pillar Point Marsh is a 20 acre salt marsh with 50 foot wide inlet to harbor at the east end of its 700' beach front. It is located a the west corner of the outer harbor breakwater. Denniston Creek's 30ft creek mouth enters the harbor just west of the marina.

LAND ACCESS: Beaches are gated. Most are drivable- 4wd, ATV, or tracked vehicle.

WATER LOGISTICS:

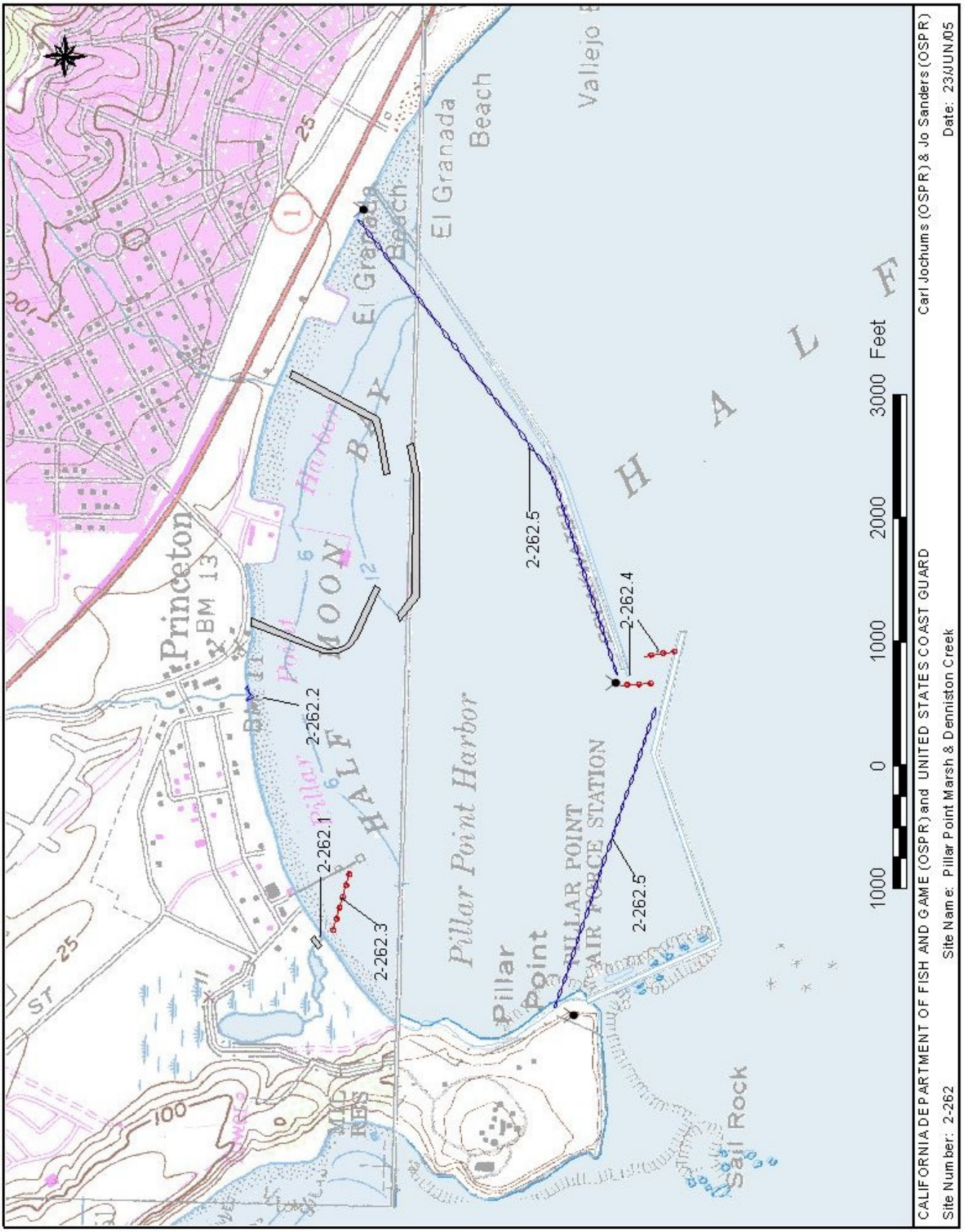
Limitations: depth, obstruction	Only modestly shallow near shore.
Launching, Loading, Docking and Services Available:	There are abundant boat services available.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Best staging, equipment and services are available at Pillar Pt. Harbor and Half Moon Bay airport. Contact County OES and Harbor Master regarding staging.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-264 -A/C Site Summary- Halfmoon Bay Beaches: Naples to S. Miramontes Pt. 2-264 -A/C

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 28	122 27
USGS Quad:	Half Moon Bay	NOAA Chart:	18680 Point Sur to San Francisco Bay	

Last Page Update : 1/1/2000

SITE DESCRIPTION:

The site extends from Pillar Point Harbor south to Miramontes Point. Most of this four miles of beaches is in Half Moon Bay State Beach and includes Naples, Dunes, Venice, Elmar, and Francis State Beaches and city beaches south to Miramontes Point. Beaches vary from medium to fine grained and are backed, for the most part, by dunes or low cliffs, but also some residences. There are two creeks, Pilarcitos and Frenchman's Creeks, outletting here. Pilarcitos creek has a lagoon. At times these two creeks will run along the cliff face and merg into a single outlet.

SEASONAL and SPECIAL RESOURCE CONCERN

This site has A-priority from February though September because of western snowy plover nesting. The remainder of the year it is C-priority because of smelt spawning.

RESOURCES OF PRIMARY CONCERN

The habitats here are medium grained beaches, sand dunes, and coastal creek mouths. Upper beach is habitat for snowy plover. The creek mouths and lagoons can vary dramatically from year to year. Pilarcitos Creek Lagoon in it's present morphology is one of the most well developed lagoons on the San Mateo Coast. It has developed between the sand dunes/beach and the cliffs extending nearly ½ of a mile from where it emerges from the riparian vegetation to the mouth of Frenchmans creek where the two creeks join and flow across the beach.

Western snowy plover nest in the back beach/low dunes zone February through August, primarily in the area of Francis Beach. Enclosures and volunteer watchers are deployed to enhance nesting success.

These beaches are used smelt for spawning. Night and day smelt spawn in dense aggregations in the beach surf zones from February through July. Surf smelt spawn May through August.

Pilarcitos Creek marsh and Frenchmans Creek mouth including fringing marsh.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Mark Duina	San Mateo, County of, Planning and Buildling	(650) 363-4161
	Sam Hershberg	San Mateo, County of, Planning and Buildling	(650) 363-4161
	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18680 Point Sur to San Francisco Bay	3 7 28	122 27

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is disturbance of snowy plover nesting and foraging on the highest portion of the beach: stay on the lower beach below the debris line. Also, there is concern about impacts to marsh plants and animals in Pilarcitos Creek. Smelt spawn in the low surf zone. Avoid disturbing the vegetation on dunes and, particularly the high back beach zone where plovers nest.

HAZARDS and RESTRICTIONS:

Waves on steep beaches and crumbling sandy dune faces are hazards.

SITE STRATEGIES

Strategy 2-264.1 Objective: Exclude/deflect oi in Pilarcitos Creek inlet and lagoon

ACP DATE 1/1/2000

Deflection booms to divert oil onto the landward side of the southern vegetated portions of the spit. Be cautious of endangered snowy plover nests on adjacent low dune. Stake boom in diagonals to deflect oil to grounding and collection on shorelines. Proceed only with State Park staff assistance. Beware that endangered Snowy Plovers nest and frequent the high part and back part of the beach.

Strategy 2-264.2 Objective: Exclude oil with sediment dike when heavy oil impacts are anticipated

ACP DATE 1/1/2000

Construct a sediment dike with flow-though culvert or pipe siphon over dike across the creek and lagoon mouth. This requires on-site evaluation to determine if 1) surf conditions will permit activity and success, 2) there is adequate sand, and 3) activities will not threaten nearby snow plover. Proceed only with State Park Staff assistance.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-264.1	0	1000		1000		anchors and stakes							6	
2-264.2	0	0	0	0	0	0		0	0			bulldozer or snad bags and culvert	2	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

There are several access points to the beach. Main access is though Half Moon Bay State Park entrance. From intersection of Hwy 92, take Hwy 1 South to first light and turn toward beach. Park Hq is left of kiosk. The mouth of Frenchmans Creek and Pilarcitos creek lagoon can be accessed by traveling north on Highway 1 from the intersection with Highway 92 and turning left on Venice Blvd. The site extends from Pillar Point Harbor south to Miramontes Point.

LAND ACCESS: There is beach access via State Parks for ATV & 4WD

WATER LOGISTICS:
Limitations: depth, obstruction: no known obstructions

Launching, Loading, Docking and Services Available: Pillar Point Harbor

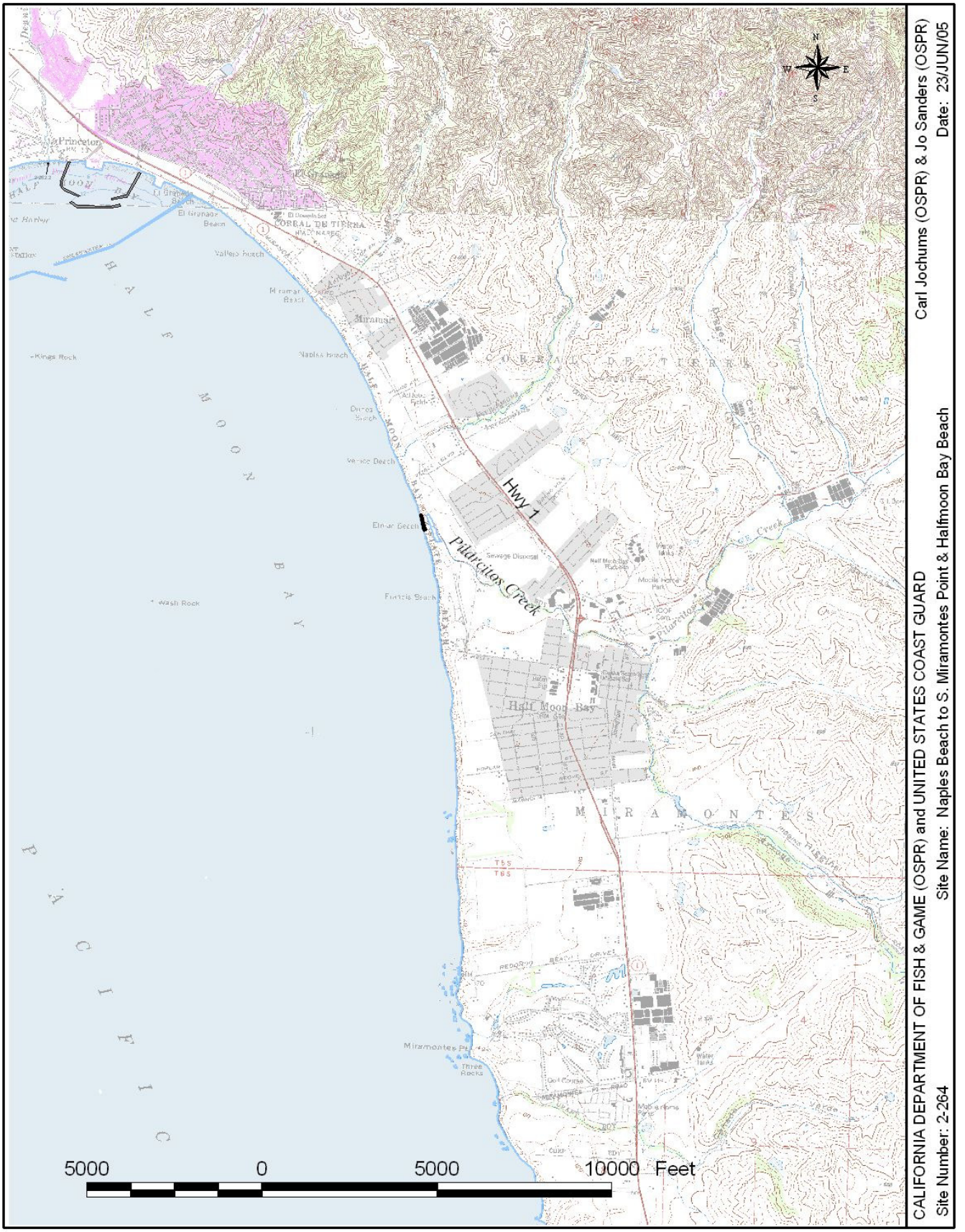
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Best staging, equipment and services are available at Pillar Pt. Harbor and Half Moon Bay Airport. Local staging at State Parks Parking lots at Venice Blvd or Kelly.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

2-264 -A/C Strategy Diagram- Halfmoon Bay Beaches: Naples to S. Miramontes Pt. 2-264 -A/C



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 22	122 24
USGS Quad:	Half Moon Bay/San Gregorio	NOAA Chart:	18680 Point Sur to San Francisco Bay	

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This beach site extends from a headland to the south to a group of rocks at mid beach and a crescent beach to the north bounded with a headland. The beaches are fine to coarse grained sand beach about a mile in total length for both beaches with sand grains becoming finer from north to south. Beaches have varied from steep to moderate grade. The beach is backed with bluffs which rise very steeply. The group of large rocks at mid beach is a remnant of a rocky headland and is favored by birds for roosting and seals haul out. There is a wave cut platform to the south of the rock outcrop and a small tombolo behind. Lobitos Creek mouth outlets here with a pool high on the beach. There is a small community of dwellings, residences and weekend cottages, and a store/restaurant. This remains a fee-use private beach get-away spot as it has been for decades. Contact personnel at the store upon arrival.

SEASONAL and SPECIAL RESOURCE CONCERN

Sensitivity is seasonal: A-priority during smelt spawning Feb-July (night smelt) May-Aug (surf smelt). C priority the remainder of the year.

RESOURCES OF PRIMARY CONCERN

The primary habitat here is a smelt spawning in the lower surf zone of the medium-coarse grain beach. The rocky formation provides roosting and haul out habitat. The wave cut platform and rocky formations are habitat for the diverse range of intertidal invertebrates. Lobitos Creek cascades steeply from the bluffs above and forms a small pool high on the beach above all but the highest surf.

A variety of sea birds roost and rest here including gulls and brown pelicans.

Harbor seals occasionally haul out on the rocks.

Smelt spawn on this beach as follows: Feb-July (night smelt) May-Aug (surf smelt).

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
TB	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18680 Point Sur to San Francisco Bay	3 7 22	122 24

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is oil contamination and burial in coarse sands which could kill smelt eggs in the sandy intertidal beach. Of lesser concern are the birds and seals which rest on the rocks and the tide pool creatures on the rocky intertidal. This is the kind of beach were oil could become buried over night. The best place to deal with oil is the south end where oil and debris collects naturally.

HAZARDS and RESTRICTIONS:

Off shore rocks and aggressive surf. Slips, trips and falls.

SITE STRATEGIES

Strategy 2-266.1 **Objective: Minimize or avert oil from impacting shoreline habitats and wildlife by offshore containment and recovery activities.** ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-266.2 **Objective: Exclude oil from Martins Creek with boom or berm when mouth is open or when surf is high enough to wash oil into this back beach marsh.** ACP DATE 1/1/2000

This small marshy lagoon may not need protection because often it is well above the high tide line. A site observation before deployment is recommended. If there is a threat from oil, block entrance of creek with boom and back with sorbent. A sediment berm may also work well.

Strategy 2-266.3 **Objective: Diversion to collection during favorable sea conditions, divert oil past north cove/beach and direct oil to recovery on fine-grained beach at south end of beach.** ACP DATE 1/1/2000

Booming for beach protection is only possible under optimal sea conditions due to swell, surf and offshore rocks. Under optimal conditions, diversion booms may be placed off northerly headland and rocky midbeach to allow oil movement past the site or to the south end of the beach. Sand at south end of beach is fine and there is less problem of oil penetration. Use 50ft of Oil Snare (OS) and/or 100ft of sorbent boom to collect oil that may accumulate. If oil accumulates in skimmable quantites, contact IC.

Strategy 2-266.4 **Objective: Oil Recovery by skimming** ACP DATE

If oil accumulates in skimmable quantites as a result of strategy .3, establish a shoreside skimming system and the south end of the beach. Consult with IC prior to deployment of this strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-266.1	0	0	0	0	0	0	0	0	0			ART & On-Water Skimming		
2-266.2	0	50		50									2	
2-266.3	1000		50 OS	300	6	6/50+/danforths w 20ft heavy chain	2	1					5	
2-266.4	0	0	0	0	0		0	0	1	SSS	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Drive 8 miles south from Hwy 92 on Hwy 1. Turn right on a private road marked with a sign for Martins Beach. This beach site extends from a headland to the south to a group of rocks at mid beach and a crescent beach to the north bounded with a headland.

LAND ACCESS: Private Beach - Barbara @ 415-712-8020

WATER LOGISTICS:
Limitations: depth, obstruction: Off shore rocky outcrops and big waves

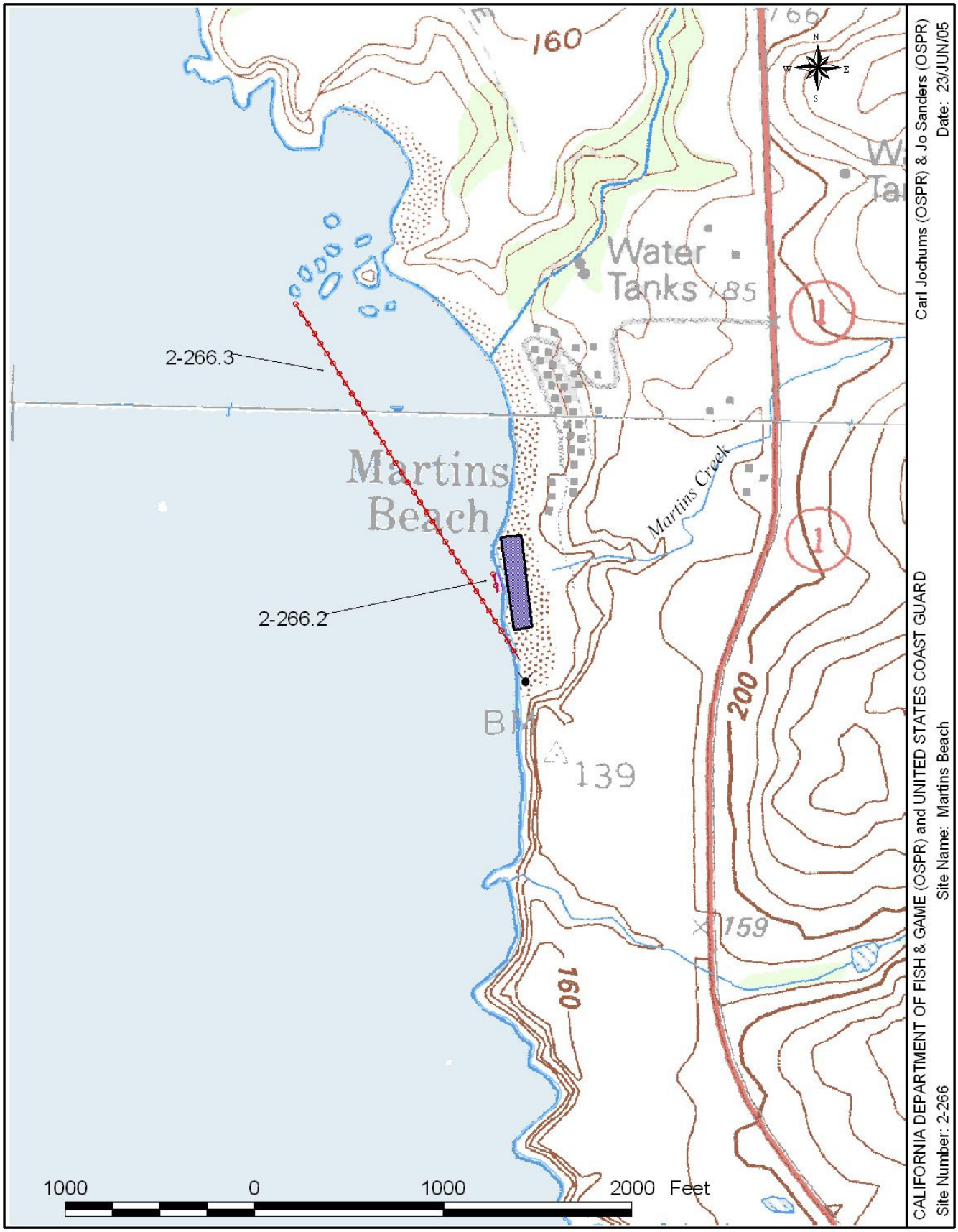
Launching, Loading, Docking and Services Available: Aside from beach launching which is feasible in optimal conditions, nearest facilities are at Pillar Pt. Harbor.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Small staging area on low bluff or on parking lot adjacent to store. Water, bathrooms, and limited food and refreshments area available. Land lines are available on site.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-269 -A Site Summary- Tunitas Beach and Creek 2-269 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 21	122 24
USGS Quad:	San Gregorio	NOAA Chart:	18680 Point Sur to San Francisco Bay	

Last Page Update : 7/1/1994

SITE DESCRIPTION:

Site includes Tunitas Creek mouth and lagoon and a mile of beach bounded north and south by rocky headlands. The beach is a broad, fine grain beach with steep cliffs. The lagoon behind the beach is deep and surrounded with dense riparian shrub growth. The creek discharges across the beach in a braided channel. The beach and creek mouth are very isolated by private property and the steep surrounding cliffs. Because the difficulty of access due to private ownership restrictions and steep cliffs, these two habitats of concern are combined as a single tactical site and will require direction and arrangements by IC/UC to provide safe access.

SEASONAL and SPECIAL RESOURCE CONCERN

The stream mouth is an A-priority year around. Smelt spawning areas are also A-priority during spawning periods: Feb-July (night smelt) May-Aug (surf smelt) - A priority.

RESOURCES OF PRIMARY CONCERN

The sandy beach and small dunes are habitat for bird use and fish spawning. The creek and lagoon have riparian and fish habitats vulnerable to oil injuries.

Both sea birds and riparian birds use these areas for foraging and nesting. This may be western snowy plover nesting habitat.

The endangered San Francisco garter snake inhabits the wetland marsh and riparian areas along the creek and lagoon.

This is a smelt spawning beach: Feb-July (night smelt) and May-Aug (surf smelt). The lagoon supports warm water fish species and a modest steelhead trout run: adults migrate from November through May and juveniles may be found in the lagoon year-round.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Mark Duina	San Mateo, County of, Planning and Buildling	(650) 363-4161
	Dean Marston	CA Dept. of Fish & Game	
	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18680 Point Sur to San Francisco Bay	3 7 21	122 24

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

First concern is oil being washed into Tunitas Creek lagoon. Second concern is possible penetration and burial of oil into beach sands which would damage or destroy smelt eggs. Also of concern is disturbance of shorebirds, particularly the plovers which live in the high beach and wrack line. Access is limited and dangerous except through very restricted private ownership. Contact IC for access to gain access though private ownerships.

HAZARDS and RESTRICTIONS:

This site has very steep cliffs with poor access. Locked gate and potential fire hazard area.

SITE STRATEGIES

Strategy 2-269.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife** — ACP DATE 1/1/1995

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Strategy 2-269.2 **Objective: Exclude oil from creek using boom when surf and flow conditions may admit oil to creek.** — ACP DATE 1/1/1995

Protect creek with boom and sorbent to collect along edge as far seaward as possible. Review and report on the possibility and advisability of using pompoms on a rope for tarballs collection. Access is a problem here: get instructions from ICS.

Strategy 2-269.3 **Objective: Exclude oil from creek by diking when surf and flow conditions may admit oil to creek.** — ACP DATE 1/1/2019

Exclude oil from lagoon by hand constructed a dike using sandbags and visquene. A syphon or flow-through culvert may be necessary to allow outflow. Access is a problem here: get instructions from ICS.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-269.1	0	0	0	0	0	0	0		0	0	ART & On-Water Skimming	5	
2-269.2	0	200	200 SN	200	2	2					pompom 200'	2	
2-269.3	0	0	0	0	0		0	0	0	0	visquene, sandbags, syphon piping		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

South on Hw1 from Hwy 92. Drive 3/10 mile past Tunitas Bridge and turn right into private road with locked gate. Access is very restricted: contact UC for access assistance and instructions. Site includes Tunitas Creek mouth and lagoon and a mile of beach bounded north and south by rocky headlands.

LAND ACCESS: 4WD steep dirt road behind locked gated north of creek - combo 1126

WATER LOGISTICS:
Limitations: depth, obstruction — very limited by this site access from south beach @ low tide
Launching, Loading, Docking and Services Available: — nearest boat launching is Pillar Pt Harbor.

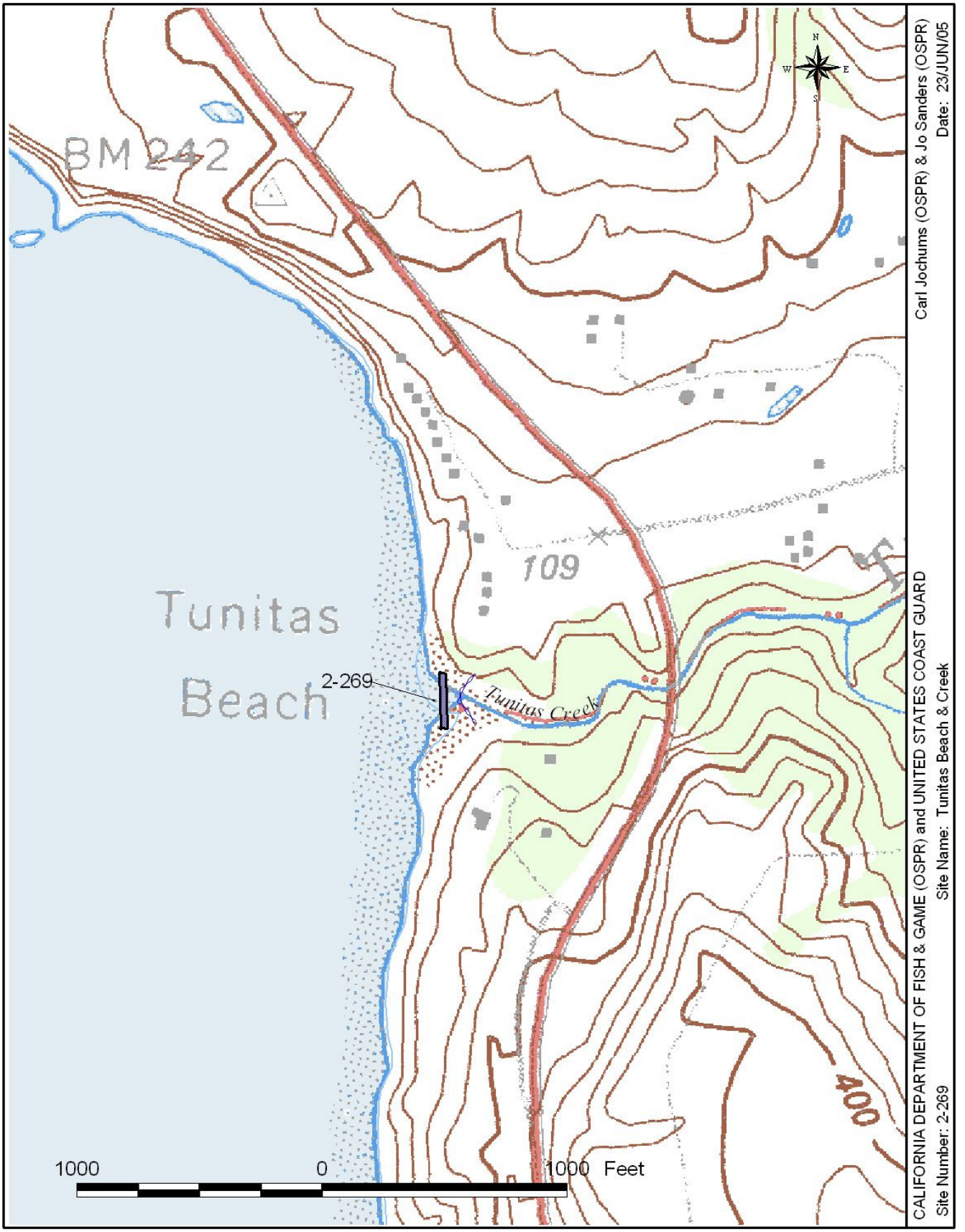
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Parking along Hwy 1 at top of high cliffs.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

communications on the beach are minimal but are outsanding on the hwy above and south of Tunitas Creek



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-271 -A Site Summary- Mussel Rock to San Gregorio Beach

2-271 -A

Thomas Guide Location	Latitude N	Longitude W
	3 7 20	122 24

County: San Mateo

USGS Quad: San Gregorio

NOAA Chart: 18680 Point Sur to San Francisco Bay

Last Page Update : 1/1/2000

SITE DESCRIPTION:

Site is the beach from of San Gregorio Creek 1.5 miles north to a bounding rock headland (Mussel Rock). The beach is very broad, up to 150 yards wide, with an extensive back beach, except at San Gregorio Creek where the cliffs are near the sea. At San Gregorio Creek the waves come to the cliff base at high tide but is drivable at low tide. The entire beach is backed with steep cliffs. Sand grain varies from medium to coarse with corresponding variation in beach slope and scallop. The back beach is littered with tree trunks and other debris. The beach is remote and is a favorite place of walkers and sunbathers seeking solitude. There is a single private access (4WD) at midbeach granting landowners access to their portion of the back beach.

SEASONAL and SPECIAL RESOURCE CONCERN

Site is A-priority February though August because of intense smelt spawning activity; C-priority the remainder of the year.

RESOURCES OF PRIMARY CONCERN

The low beach is important smelt spawning habitat. The high back beach is snowy plover habitat.

In addition to western snowy plover nesting, a variety of shore birds forage here.

Smelt spawn here in dense aggregations in the surf zone: Feb- July (night Smelt) and May - Aug. (surf Smelt)

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18680 Point Sur to San Francisco Bay	3 7 20	122 24

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The prime concern is oil penetration or burial on the beach which is a threat to smelt eggs buried in the surf zone of the beach. There may also be endangered western snowy plovers in the debris line and the back beach. Contact ecologists to establish traffic corridors before putting vehicles on the beach.

HAZARDS and RESTRICTIONS:

Portions of the beach are covered at high tide. Aggressive surf and rock falling from cliffs are main hazards.

SITE STRATEGIES

Strategy 2-271.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife** ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-271.1	0	0	0	0	0	0	0	0	0		ART & On-Water Skimming	0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Site is about 12 miles south of Half Moon Bay on Hwy 1: access from San Gregorio Creek State Beach pullout (contact State Parks for vehicle access to beach): beach is drivable with 4WD and passable during low low tides. Other access may be available through private ownerships. Site is the beach from of San Gregorio Creek 1.5 miles north to a bounding rock headland (Mussel Rock).

LAND ACCESS: 4WD/ATV access at low tide at San Gregorio parking lot -DPR permission

WATER LOGISTICS:
Limitations: depth, obstruction: none known

Launching, Loading, Docking and Services Available: nearest launch/support is Pillar Pt Harbor. Possible beach launching from Martins Beach in optimal conditions

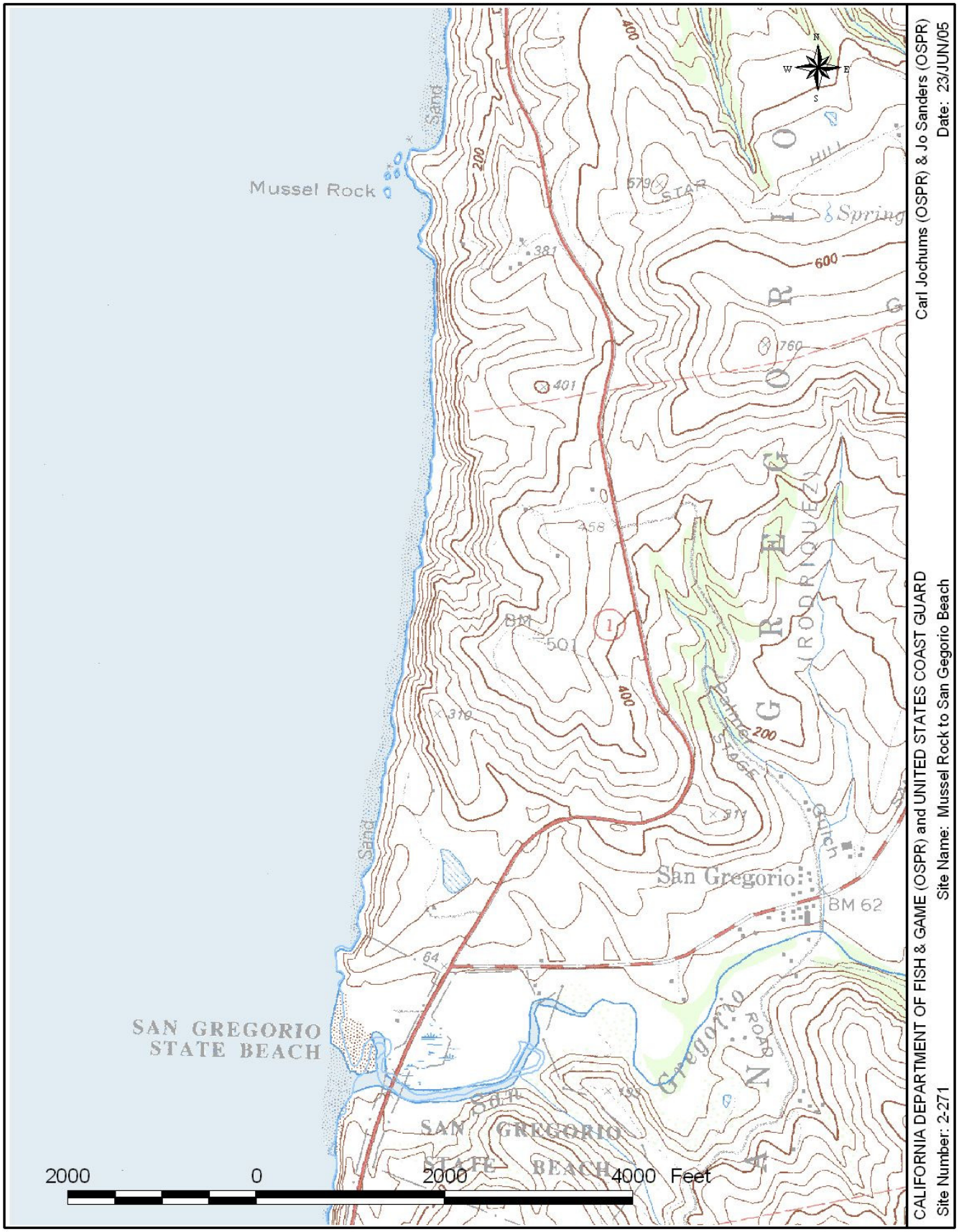
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

San Gregorio State Park parking lot. Tarmac, water and bathrooms only.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Communications from on the beach is impeded by steep and high cliffs which can block signals.



Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-273 -A Site Summary- San Gregorio Creek 2-273 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**San Mateo**	AAA San Mateo C	3 7 19	122 24
USGS Quad:	**San Gregorio**	NOAA Chart: **18680 Point Sur to San Francisco Bay**		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This site is San Gregorio Creek itself and the lagoon and marsh landward of the beach which extends some distance upstream from the Hwy 1 bridge. The beach side of this site is State Park Lands and there is a kiosk and parking on site. The creek flows to the sea most of the year. Medium-grained sand beach and berm is active and gets reworked by waves. The lagoon under the Hwy 1 bridge is present year round. There is a well developed open marsh landward of bridge.

SEASONAL and SPECIAL RESOURCE CONCERN

Year round "A" priority. The environmental resources at risk include the tidewater goby, juvenile steelhead and salmon, and the marshes within the creek and lagoon drainage. Nov. - May steelhead trout and coho (silver) salmon migrate through the creek.

RESOURCES OF PRIMARY CONCERN

Well developed marshes are present from near the mouth of the creek and extending upstream, and are highly sensitive to oil contamination. The lagoon waters are important fish habitat.

Snowy plovers have nested in the wrack and debris of the south half of the lagoon berm. Waterfowl and wading birds are abundant in the lagoon and the stream outflow.

The tidewater goby is a federally endangered species that lives in the creek from the mouth to one mile upstream. San Gregorio Creek is one of the principle steelhead trout and coho salmon production areas for the San Mateo coast. They migrate upstream from Nov.- Jan., while downstream migrants use the creek from Feb. - May, and smolts are present year round.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
B	Baylands Nature Preserve Office	Baylands Nature Preserve	(650) 329-2506
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
T	Jennifier Nelson	CA Dept. of Fish & Game	(408) 649-7153
B	Jan Roletto Research Coordinator	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	18680 Point Sur to San Francisco Bay	3 7 19	122 24

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The primary concern is preventing oil washing into San Gregorio Creek and the large marsh which extends landward from the beach and well upstream of the highway. Oil in this lagoon would be very destructive to the surrounding marshy vegetation and the fish and wildlife living in or using the marsh and lagoon. Also be aware that a small endangered sandpiper is sometimes found nesting and resting in the debis at the mouth of the lagoon. Please avoid trampling plants and treading oil into the ground. Location of creek mouth changes frequently. Responders must adapt strategy to the situation they find but should advise IC before proceeding to improvise.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches. The eroding cliff face is unstable, do not stand on the edge of the cliff, and when on the beach beware of falling rocks.

SITE STRATEGIES

Strategy 2-273.1 **Objective: Exclude oil by diking the mouth of the creek when heavy oil impacts are expected.** ACP DATE 1/1/2000

When heavy oiling is expected, the prefered option is to close off inlet with a sediment dike backed by collection trench (medium-grained sand). The dike would have to be about 500 feet long. Sediment may be in short supply, especially after storms. If outflow is high enough to washout the dike, a culvert or culverts must be installed in the dike.

Strategy 2-273.2 **Objective: Exclusion booming at the mouth of San Gregorio Creek, when level of oiling does not merit diking desturbance or as back-up to diking (2-273.1).** ACP DATE 1/1/2000

Exclude oil from moving upstream in the lagoon by deploying exclusion-deflection boom at the mouth near the beach. Divert oil washing into lagoon to catchment areas on south shore of lagoon and on the landward side of the high berm. Depending upon configuration of creek mouth this strategy may require 600 to 1500 feet of swamp boom. 3,000 feet of oil snare on a rope (SN) should be deployed where waves are expected to wash over into the lagoon.

Strategy 2-273.3 **Objective: Contain/collect oil at seaward end of lagoon, when oil has been washed into lagoon - to keep oil from marshy areas east of Hwy 1 bridge.** ACP DATE 1/1/2000

When oil is threatening to move upstream past the bridge, use collection booms anchored to north and/or south bridge pilings to divert oil to a collection and recovery area. 600 feet of swamp boom and 600 feet of sorbent may be adequate for this strategy. Us 50ft of Oil Snare (OS) and/or 100ft of sorbent boom to collect oil. If oil begins to accumulate in skimmable quantity, consult IC.

Strategy 2-273.4 **Objective: Oil Recovery by skimming** ACP DATE

Deploy skimmer if oil accumulates in skimmable quantities as a result of strategy .3. Use skimmer head and pump to storage on beach or truck on highway. Consult IC prior to initiating this strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-273.1	0	0	0	0	0		0	0	0			earth moving equipment, Visquene, culve	4	
2-273.2	0	1500	3000 SN	0	32	30 Stakes & 1/7#+ anchor + 1000 lin	0	2	0		0		6	2
2-273.3	0	600	50 OS	700	0		0	1			0	lift pumps may be necessary	4	2
2-273.4	0	0	0	0	0		0	0	1	SFS	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Half Moom Bay. At Half Moon Bay turn south onto Hwy 1, and continue 10 miles south to San Gregorio Beach parking lot. This site is San Gregorio Creek itself and the lagoon and marsh landward of the beach which extends some distance upstream from the Hwy 1 bridge. The beach side of this site is State Park Lands and there is a kiosk and parking on site.

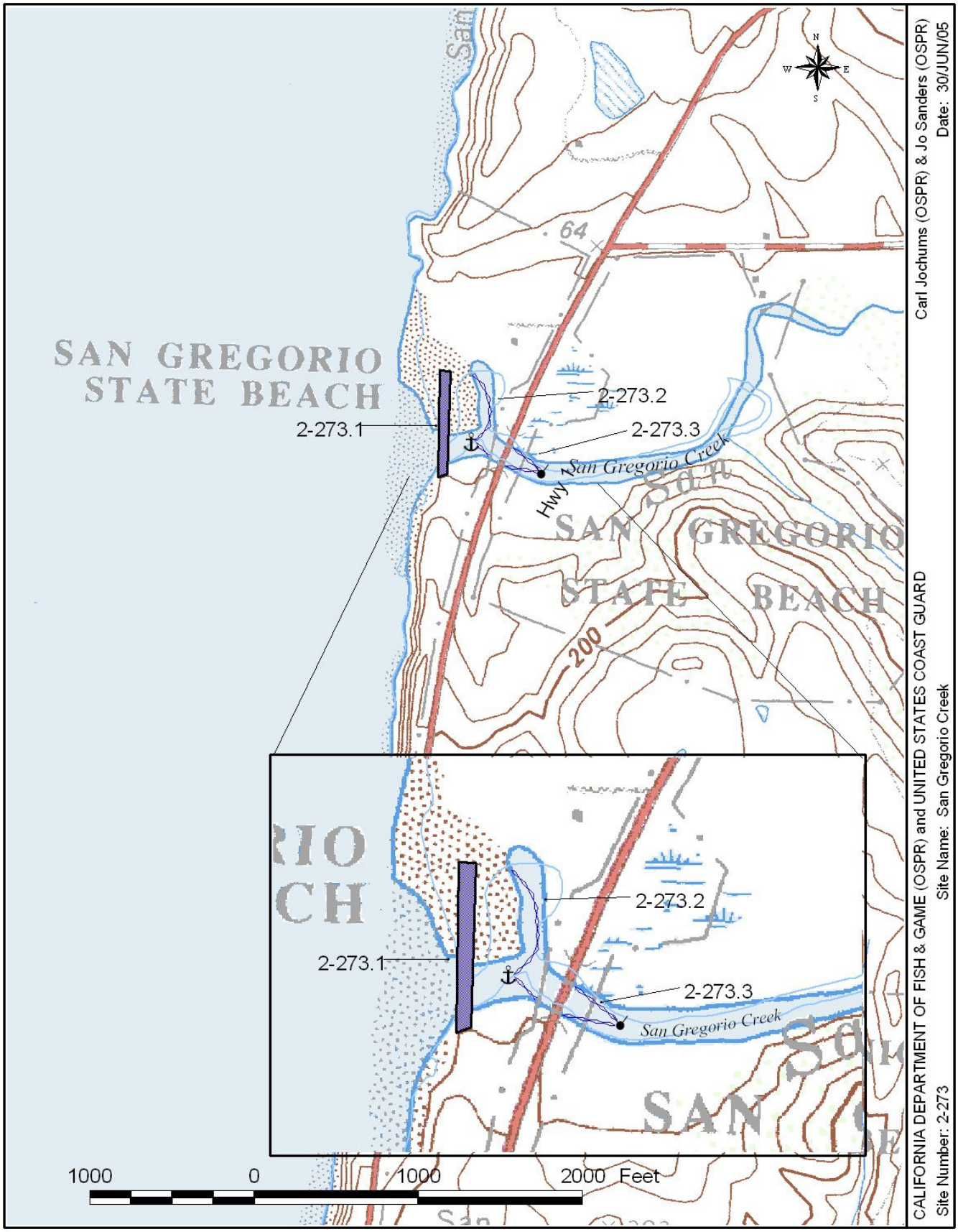
LAND ACCESS: Foot only around lagoon. 4WD vehicles may be able to travel on beach.

WATER LOGISTICS: none identified.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: For skiffs in the lagoon, small skiffs can be carried down a steep slope from parking area. Nearest boat facilities are in Half Moon Bay.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The San Gregorio State Park parking lot is suitable for a small staging area or field post. A highway 1 pull-out on a hill to the south provides better communications, and the Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.



Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-275 -A Site Summary- San Mateo Coast State Beaches 2-275 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**San Mateo**	AAA San Mateo C	3 7 17	122 24
USGS Quad:	**San Gregorio**	NOAA Chart: **Pt Sur - S Francisco**		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This site is four miles of fine to medium-grained sand beaches bounded by San Gregorio Creek on the north and Pescadero Creek on the south. It includes San Gregorio, Pomponio, and Pescadero State Beaches within the San Mateo Coast State Beach system. In general, these beaches have low steep bluffs backing the beach. There are many access points.

SEASONAL and SPECIAL RESOURCE CONCERN

Feb. - Aug. this site is an "A" priority habitat for smelt spawning. Sep. - Jan. this site is a "C" priority.

RESOURCES OF PRIMARY CONCERN

These fine to medium-grained beaches are spawning habitat for smelt and foraging and resting habitat for birds.

Snowy plovers are found on these beaches.

Night and surf (day) smelt spawn in dense aggregations in the surf zone of these beaches from Feb. - Jul. (night smelt), and May - Aug. (surf smelt).

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites are nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	DPR DISPATCH	CA State Parks, Candlestick Point (SRA)	(800) 548-1431
TB	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534
B	Jan Roletto Research Coordinator	National Marine Sanctuaries, Gulf of the Farallones	(415) 561-6622

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 17	122 24

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Oil on the beach may cause smelt eggs to fail to hatch or deformities in the larvae. Responders should avoid traffic above the last high tide swash to minimize impacts to snowy plovers.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches. The eroding cliff face is unstable, do not stand on the edge of the cliff, and when on the beach beware of falling rocks.

SITE STRATEGIES

Strategy 2-275.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-275.1	0	0	0	0	0	0	0	0	0					

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Hwy 92 to Halfmoon Bay. Continue south onto Hwy 1 about 15 miles. Turn into parking lot at Pomponio Creek. This site is four miles of fine to medium-grained sand beaches bounded by San Gregorio Creek on the north and Pescadero Creek on the south.

LAND ACCESS: 4WD vehicles with high floatation tires may be able to travel on beach

WATER LOGISTICS:

Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, fifteen miles to the north

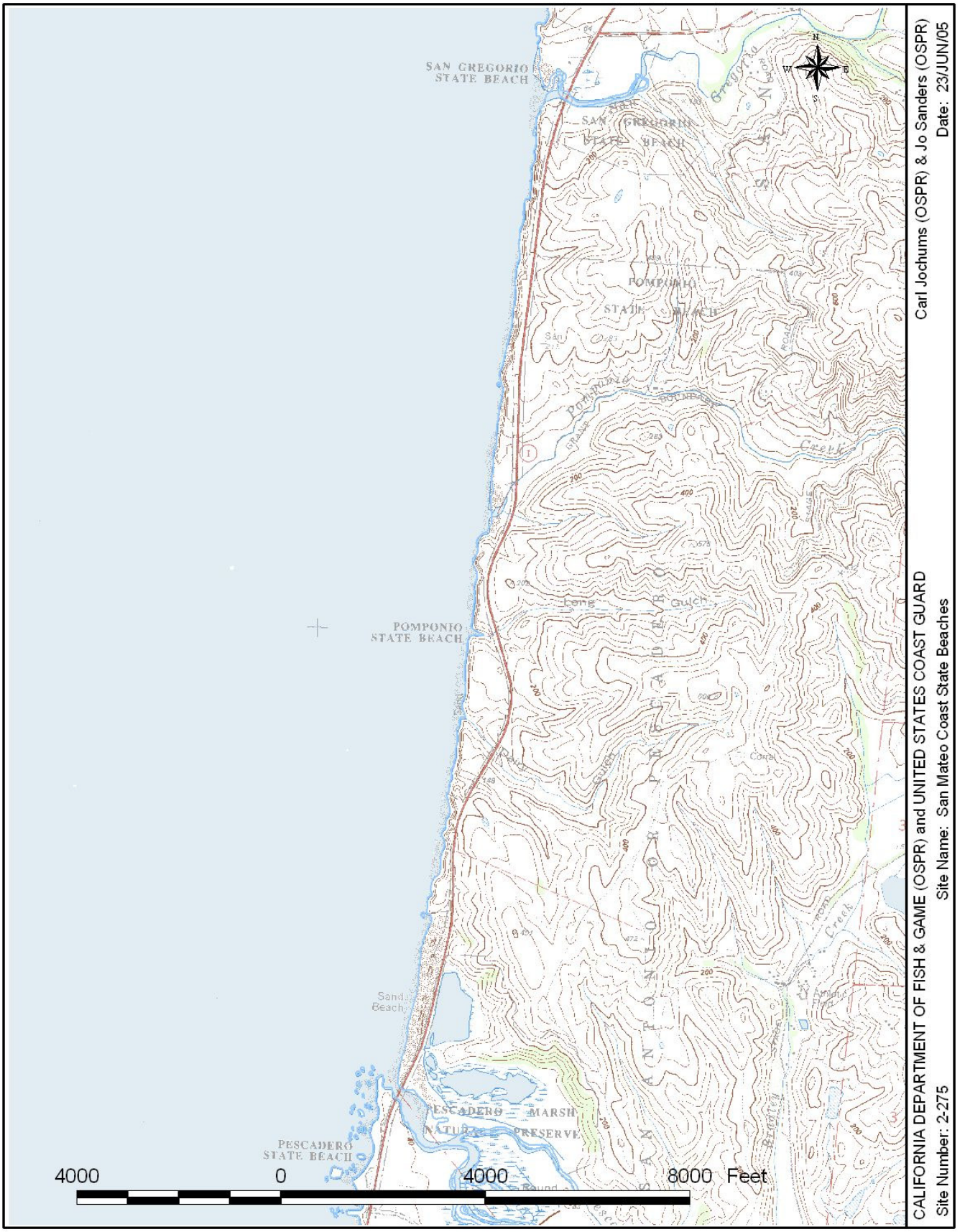
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The San Gregorio State Park parking lot is suitable for a small staging area or field post. A highway 1 pull-out on a hill to the south provides better communications, and the Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Communications are spotty in this part of the coast.



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo	AAA San Mateo C	3 7 07	122 19
USGS Quad:	San Gregorio	NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This site is limited to Pomponio Creek from 50 feet upstream of the highway 1 bridge to the ocean surf.

SEASONAL and SPECIAL RESOURCE CONCERN

A priority year around.

RESOURCES OF PRIMARY CONCERN

Silver salmon and steelhead smolts may reside in the lagoon all year.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

2-277 -A Site Strategy - Pomponio Creek 2-277 -A

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 07	122 19

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Oil in the lagoon may kill or severely injure salmon smolts. To minimize impacts to snowy plovers responders should stay on the wet portion of the beach unless they must be higher on the beach to implement the response strategy.

HAZARDS and RESTRICTIONS:

Beware of surf: it occasionally washes people and equipment out to sea.

SITE STRATEGIES

Strategy 2-277.1 **Objective: Exclude oil from entering the lagoon. If oil does enter the lagoon, remove it promptly.**

ACP DATE 1/1/2000

Location of lagoon changes occasionally. Responders must adapt the strategy to the situation they find.
A) The prefered option is to close off inlet with a sediment dike backed by collection trench (medium-grained sand). The dike would have to be about 500 yards long. Consider constructing a collecting trench on the back side of the berm if oil is expected to wash over the top of the berm. Sediment may be in short supply, especially after storms, and the dike could wash out during periods of high runoff, consider underflow dam.

If dike doesn't hold or there is insufficient sand to construct one, backup strategy consists of:
b) try to keep oil on seaward side of Route 1 bridge by setting up deflection boom system to divert oil to catchment areas on south shore of lagoon and on the landward side of the high berm, or if there is sufficient flow of water out of the lagoon, deflect oil to outlet and back to the sea. Depending upon configuration of creek mouth this strategy may require 600 to 1500 feet of swamp boom. Up to 3,000 feet of oil snare on a rope should be deployed where waves are expected to wash over into the lagoon.
c) If there is risk of oil passing through the double culverts under highway 1, deploy swamp boom and sorbents across the creek on both sides of highway 1. If there is little or no flow of water through the culverts, dam the culverts with 500 sandbags. Use PVC pipe fitted with a 90 degree elbow to allow freshwater to flow through the dam.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-277.1	0	2100	0	3600		30 stakes, 1000' 3/8" line	0	0				earth moving equipment, dozer, ATV	10	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 15 miles. This site is limited to Pomponio Creek from 50 feet upstream of the highway 1 bridge to the ocean surf.

LAND ACCESS: Foot traffic only

WATER LOGISTICS:

Limitations: depth, obstruction

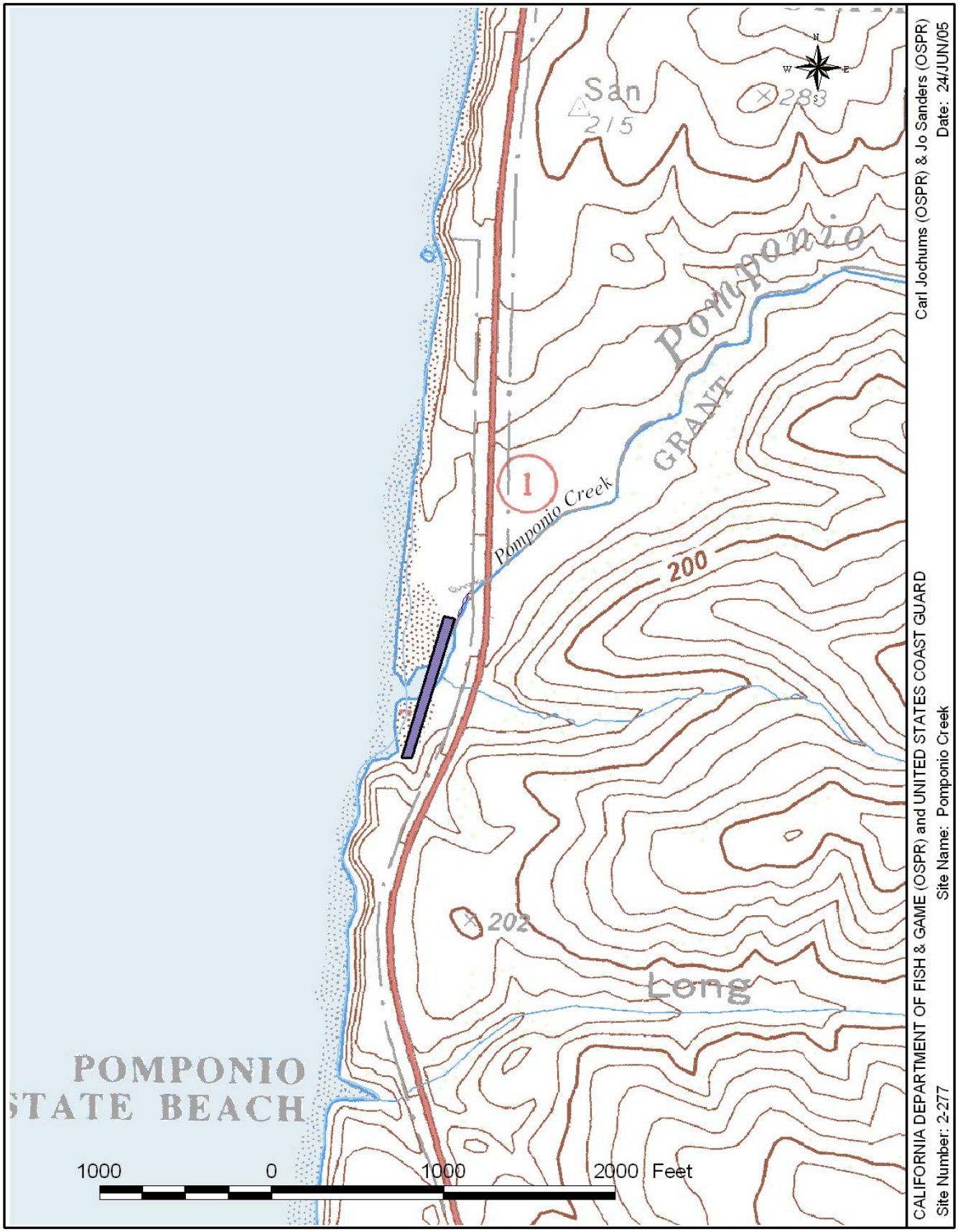
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, fifteen miles to the north

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Pomponio beach parking lot is suitable for a small staging area or field post. Responders may have to travel north or south on highway 1 to find a location where they can communicate with the command post. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-280 -A Site Summary- Pescadero Marsh 2-280 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo	AAA San Mateo C	3 7 16	122 24
USGS Quad:	San Gregorio	NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

The site includes the creek mouth from the surf upstream to the marsh. This is a State Park. Pescadero marsh is the largest marsh system on this part of the coast. The mouth is wide (ca. 300 ft) across the medium grained sand beach. The creek mouth is either open or susceptible to waves to waves washing over the berm at high tide and into the lagoon most of the year. There is a large lagoon inland of the Highway 1 bridge.

SEASONAL and SPECIAL RESOURCE CONCERN

Year round "A" priority resources at risk are several threatened and endagered species, and the marshes within the creek and lagoon drainage. Nov. - May Steelhead Trout and Coho (silver) Salmon migrate through the creek. During the winter months waterfowl are abundant.

RESOURCES OF PRIMARY CONCERN

Several threatened, endanged, or proposed listed species are present within the creek and marsh, such as the tidewater goby, San Francisco garter snake, saltmarsh common yellowthroat, red-legged frog, and the California brackish water snail. Steelhead Trout migrate upstream from Nov. - Jan., while downstream migrants use the creek from Feb. - May, and smolts are present year round. Waterfowl and wading birds are also abundant in the creek and marsh system. The Pescardo Marsh system is an important resting and feeding area for migratory birds using the pacific flyway.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Dave Augustine	CA Dept. of Parks & Recreation	(650) 879-0832
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Dean Marston	CA Dept. of Fish & Game	
	Jennifier Nelson	CA Dept. of Fish & Game	(408) 649-7153
	Palo Alto Boat Works at C	Palo Alto Boat Works, Cooley Landing	
	Gary Strachan	CA State Parks, Ano Nuevo (SP)	(650) 879-0454

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 16	122 24

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Several threatened, endanged, or proposed listed species are present within the creek and marsh, such as the tidewater goby, San Francisco garter snake, saltmarsh common yellowthroat, red-legged frog, and the California brackish water snail. Steelhead Trout migrate upstream from Nov. - Jan., while downstream migrants use the creek from Feb. - May, and smolts are present year round. Waterfowl and wading birds are also abundant in the creek and marsh system. The Pescardo Marsh system is an important resting and feeding area for migratory birds using the pacific flyway.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea.

SITE STRATEGIES

Strategy 2-280.1 **Objective: Exclude oil from entering the mouth of the creek. If oil does enter the creek, prevent it from reaching the wetland vegetation.** ACP DATE 1/1/2000

Flood currents could be fairly strong during spring tides. The shape of the creek mouth changes often. Responders may have to design a strategy suited to the conditions they find.

Under ideal conditions, it may be possible to close off the inlet with a sediment dike (medium-grained sand) about 500 feet long. There appears to be an abundant sand supply to the north. However, waves are typically quite large and storm waves would breach the dike. It could also wash out during periods of high run-off. If dike fails, there is a sandy-shoreline catchment area located on the the north shore of the ponded water.

Strategy 2-280.2 **Objective: Exclude oil from entering the mouth of the creek. If oil does enter the creek, prevent it from reaching the wetland vegetation.** ACP DATE

If a dike is not possible consider the following:
b) Deploy 600 feet of swamp boom from the rocky headland on the south side of the creek mouth to the northern bridge footing to deflect oil to the sandy beach there during the flood tide, and another 600 feet of swamp boom from the southern bridge footing to the sandy beach on the north shore of the creek 300 feet upstream from the bridge. Oil could be stranded and collected here. Divert oil to two locations: 1) sandy shoreline (north shore), both seaward and inland of the highway 1 bridge (logs and other debris would have to be removed), and 2) 50ft of Oil Snare (OS) and/or 100ft of sorbent boom to collect the oil that may accumulate.

Strategy 2-280.3 **Objective: Oil Recovery by skimming** ACP DATE

If oil accumulates in skimmable quantites, deploy skimmer in open water to southeast of bridge. Consult with IC prior to initiation of strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-280.1	0	4000	50 OS	400	40	40	0	1					10	
2-280.2	0	0	0	0	0		0	0	1	shallow	0			
2-280.3	0	0	0	0	0		0	0	0		0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hwy 92 at Halfmoon Bay, continue south on Hwy 1 to Pescadero Beach (approximately 20 miles). The area is part of San Mateo Coast State Beach System. The site includes the creek mouth from the surf upstream to the marsh. This is a State Park.

LAND ACCESS: 4WD vehicles with high floatation tires may be able to travel on beach

WATER LOGISTICS: None noted.
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Boats must be small enough to carry across beach. Nearest boat facilities are in Half Moon Bay, twenty miles to the north

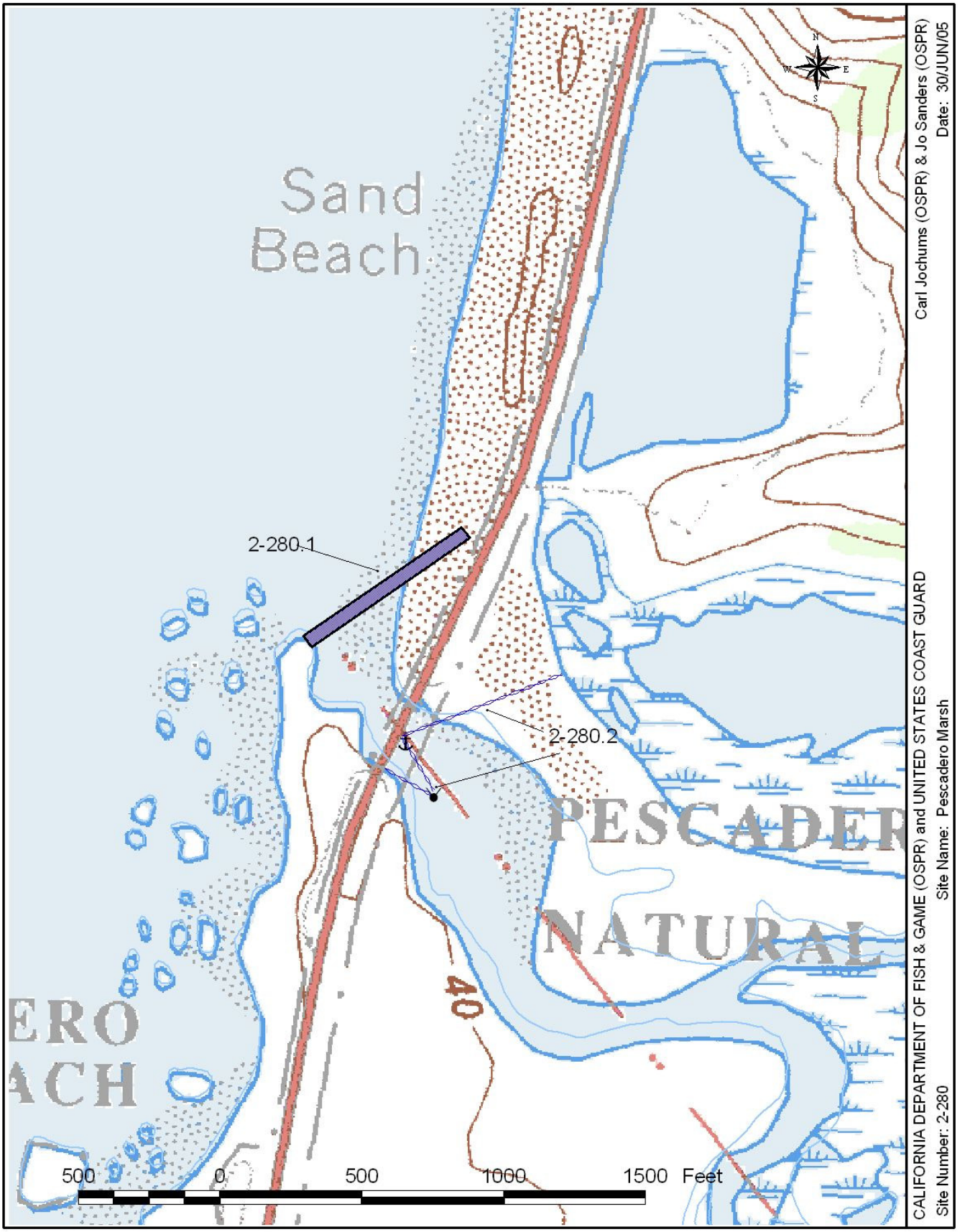
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

There is a small dirt parking lot seaward of highway 1 on the south side of the creek mouth. This parking lot may be suitable for a small staging area or field post. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

No communications problems reported at this location



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Site Summary- Bean Hollow

2-282 -B

County:	San Mateo	Thomas Guide Location	AAA San Mateo C	Latitude N	3 7 14	Longitude W	122 25
USGS Quad:	Pigeon Point	NOAA Chart:	Pt Sur - S Francisco				

Last Page Update : 1/1/2000

SITE DESCRIPTION:

The Bean Hollow State Park parking lot is in on a rocky promentory in the middle of the small cove, 1000 feet across, with a fine grained sand beach on either side of the parking lot. The Bean Hollow State Park parking lot is in on a rocky promentory in the middle of the small cove, 1000 feet across, with a fine grained sand beach on either side of the parking lot. There are rocky headlands on either side of the cove with a rocky reef about 1,000 feet seaward of the beaches. A lagoon on the inland side of highway 1 drains onto the south beach through a concrete culvert under the highway.

SEASONAL and SPECIAL RESOURCE CONCERN

RESOURCES OF PRIMARY CONCERN

There is a freshwater marsh on the inland side of highway 1. It is vulnerable only at very high tides.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 14	122 25

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The marsh would be seriously injured if oil passed through the culvert under highway 1.

HAZARDS and RESTRICTIONS:

This cove is more protected than most along this coast. Waves break at the mouth of the cove about 300 yards seaward from the beaches. Small waves break on the gradually sloping, hard sand beaches. Small craft can sometimes be launched on the beach and safely operated in the cove.

SITE STRATEGIES

Strategy 2-282.1 Objective: Exclude oil from entering the culvert under highway 1.

ACP DATE 1/1/2000

If high tides are expected and there is little or no water flowing through the culvert, block the culvert with a sand berm or a plastic sheet and sand, or 100 sandbags.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-282.1	0	0	0	0	0	0	0	0			shovels, 100 sandbags, 1 roll plastic	2	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1 at Halfmoon Bay. Turn into parking lot at Bean Hollow State Park. The Bean Hollow State Park parking lot is in on a rocky promentory in the middle of the small cove, 1000 feet across, with a fine grained sand beach on either side of the parking lot.

LAND ACCESS: foot only

WATER LOGISTICS: Small boats could be carried across the beach and launched.
Limitations: depth, obstruction

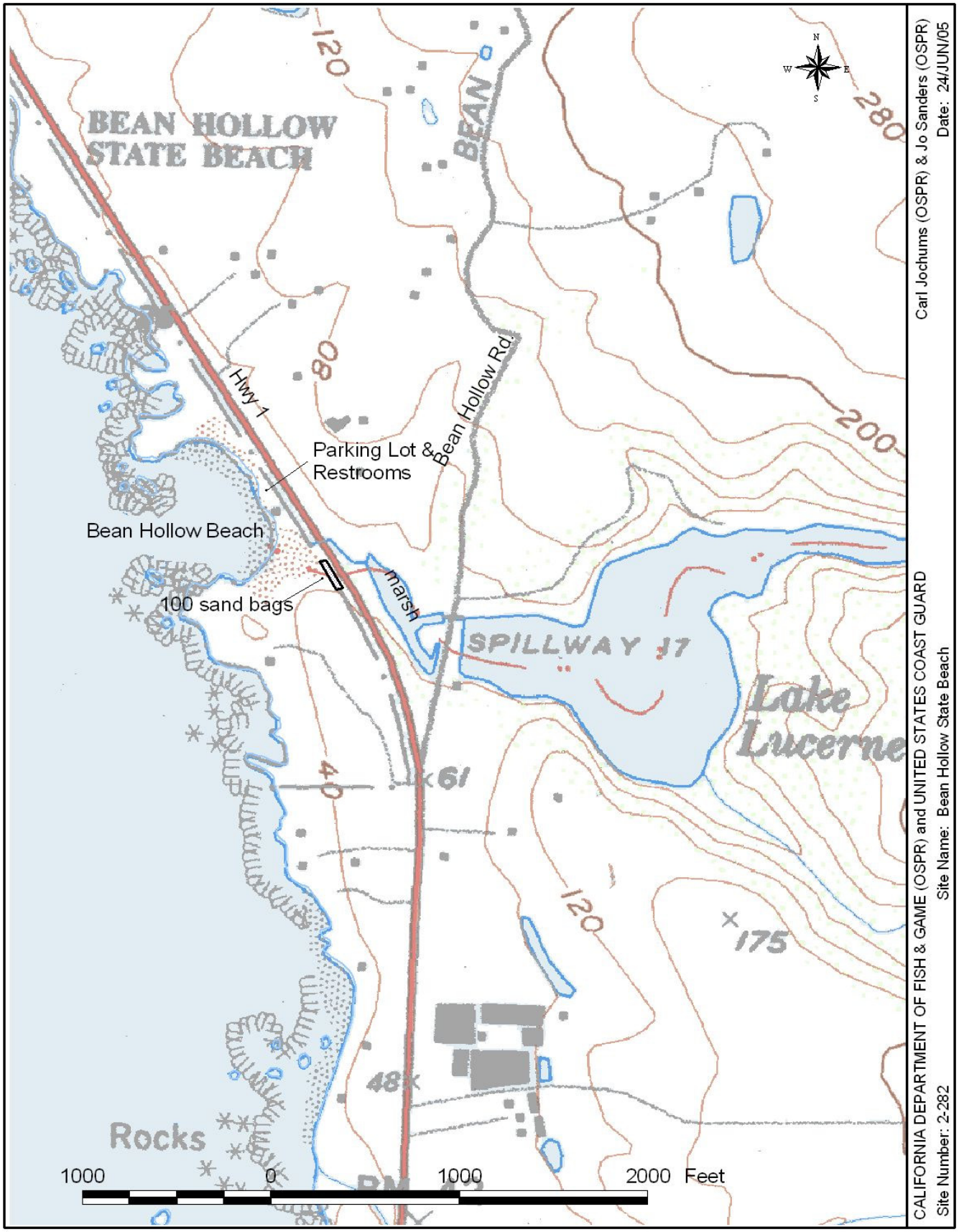
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, fifteen miles to the north

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The very small Bean Hollow State Park parking lot is suitable only for staging personnel and equipment defending this site. They may have to travel a mile or two up or down highway 1 to find a location that permits communication with the command post. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-284 -B Site Summary- Pescadero Point to Pebble Beach 2-284 -B

		Thomas Guide Location	Latitude N	Longitude W
County:	**San Mateo**	AAA San Mateo C	3 7 14	122 25
USGS Quad:	**Pigeon Point**	NOAA Chart: **Pt Sur - S Francisco**		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

Pebble Beach is a state park. A one-half mile segment of coastline composed of wave-cut rock platforms, washrocks, and pocket beaches of mixed sand and gravel. Site located within San Mateo Coast State Beaches.

SEASONAL and SPECIAL RESOURCE CONCERN

This area is a year round "B" priority.

RESOURCES OF PRIMARY CONCERN

Harbor seals haulout on the rocky platforms year round.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Sarah Allen	US National Park Service, Pt. Reyes (NS)	(415) 464-5187
	Baylands Nature Preserve Office	Baylands Nature Preserve	(650) 329-2506
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	J. T. Harvey, Ph.D	Moss Landing Marine Laboratories	(831) 755-8650

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 14	122 25

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The harbor seals will be injured or killed if they inhale or ingest petroleum.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches.

SITE STRATEGIES

Strategy 2-284.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**

ACP DATE 1/1/2000

This site is difficult to protect as is most of the outer coast. Mechanical shoreline protection techniques are not likely to be effective because of high wave energy and/or rocky conditions at this site.

a) Recommended response strategy is on-water containment and recovery.
b) Pursue feasibility of alternative response technologies (e.g. dispersants and in-situ burning) to reduce the volume of oil reaching the site.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-284.1	0		0	0	0	0	0	0						

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Half Moon Bay. Turn south onto Hwy 1. Travel 16 miles to Pescadero Point or Pebble Beach. Pescadero Point is two miles past Pescadero State Beach. Inlet is located at Bean Hollow State Beach. Pebble Beach is a state park.

LAND ACCESS: 4WD vehicles with high floatation tires may be able to travel on beach

WATER LOGISTICS:
Limitations: depth, obstruction: Steep, plunging breakers common, beaches very dangerous.

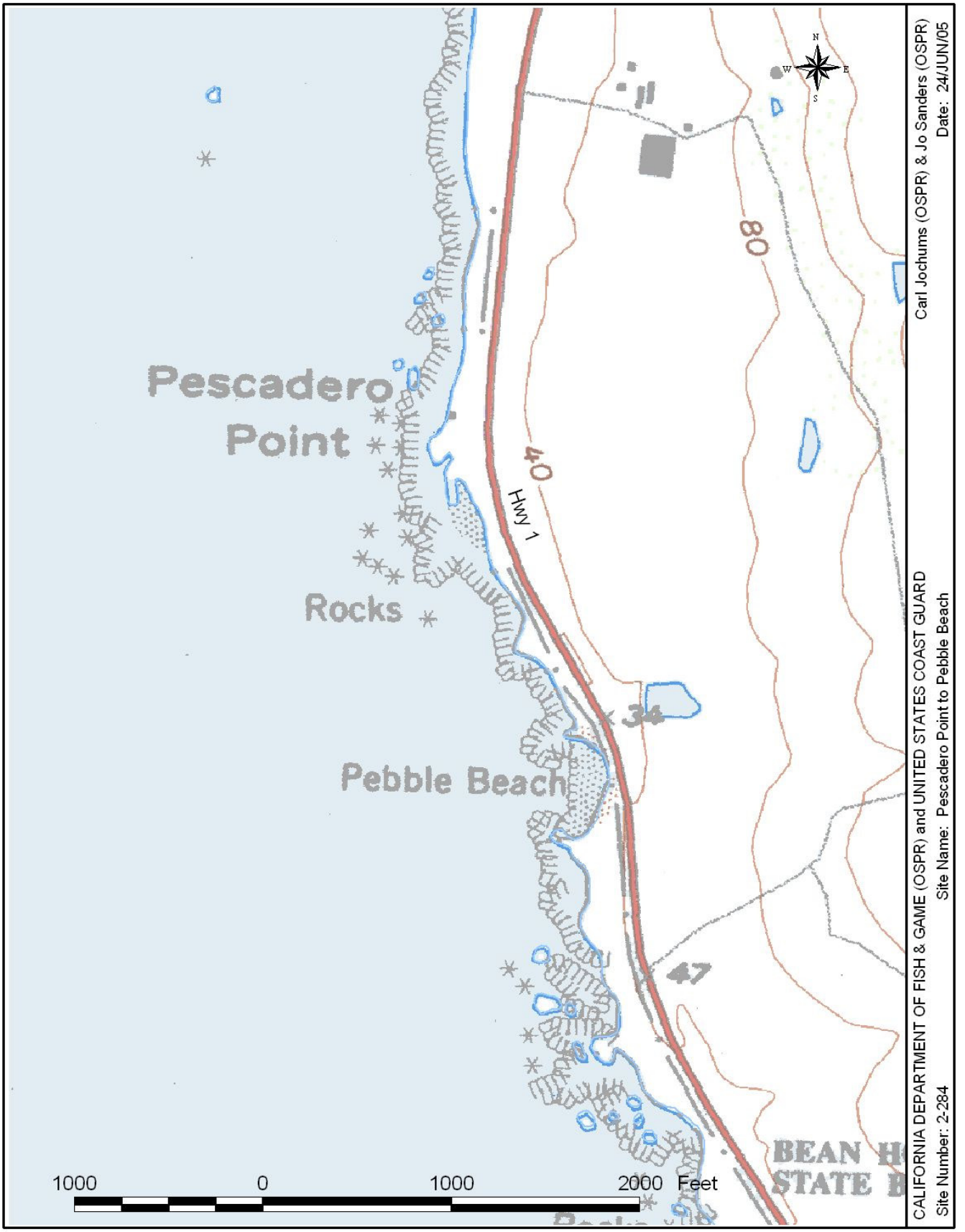
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, fifteen miles to the north

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The San Gregorio State Park parking lot is suitable for a small staging area or field post. A highway 1 pull-out on a hill to the south provides better communications, and the Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-287 -A Site Summary- Gazos Creek

2-287 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo	AAA San Mateo C	3 7 10	122 22
USGS Quad:	Franklin Point, CA	NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This site is limited to the mouth of the creek and the lagoon immediately inland of the beach face and berm top. Creek open during the wettest months of the year and durings high tides. Well-developed fringing marsh along the creek banks on both sides of the Highway 1 bridge. Ponded water present behind berm.

SEASONAL and SPECIAL RESOURCE CONCERN

This andromous fish stream is an "A" priority year round. Adult fish will enter lagoon and creek from Nov. to April. There are possibly smolts in the lagoon all year long.

RESOURCES OF PRIMARY CONCERN

This stream is important for the production of Steelhead Trout and Coho (silver) Salmon along this area of the coast. The fish migrate upstream from Nov. to Jan., while downtream migrants use the creek from Feb. to May, and smolts are present all year-round.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Jennifer Nelson	CA Dept. of Fish & Game	(408) 649-7153

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 10	122 22

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Oil entering the lagoon will kill or injure salmon and steelhead smolts in the lagoon, and may injure birds using the beach and lagoon.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches. The eroding cliff face is unstable, do not stand on the edge of the cliff, and when on the beach beware of falling rocks.

SITE STRATEGIES

Strategy 2-287.1 **Objective: Exclude oil from entering the lagoon at the mouth of the creek. Should oil enter the lagoon, contain it as near the outlet as possible and remove promptly to minimize impact to fish in the lagoon and vegetation along the inland side of the lagoon.**

ACP DATE 1/1/2000

Construct 600 foot long sediment dike between berm top and lagoon with collecting trench between dike and lagoon. Sediment may be scarce after major storms. Deploy 200 feet of small (4 inch freeboard) boom to contain oil entering the lagoon along the seaward side of the lagoon. Recover oil that strands on beach seaward of the dike, and in the collecting trench behind dike. Should oil enter the lagoon, recover it as quickly as possible or allow it to flow back to sea if high runoff from the creek makes recovery ineffective. 50ft of Oil Snare (OS) or 200ft of sorbent boom may be effective if sufficient oil collects in the lagoon.

A cargo helicopter may be useful for moving equipment from the parking lot to the creek mouth. Use of a helicopter could greatly reduce the injury to upland vegetation and the time required to implement the booming strategy if the sediment dike is not constructed. Contact IC if oil accumulates in skimmable quantities.

Strategy 2-287.2 **Objective: Oil Recovery by skimming**

ACP DATE

Use drum or rope skimmer to collect oil if it accumulates in skimmable quantities. Get authorization from IC prior to using this collection strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-287.1	0	200	50 OS	300	4	4					dozer or helicopter	8	
2-287.2	0	0	0	0	0		0	0	1	drum or r	0		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 22 miles. Access from paved parking lot on seaward side of highway 1, and locked gate along Gazos Creek road immediately inland of highway 1. This site is limited to the mouth of the creek and the lagoon immediately inland of the beach face and berm top.

LAND ACCESS: 4WD vehicles with high floatation tires may be able to travel on beach

WATER LOGISTICS:

Limitations: depth, obstruction

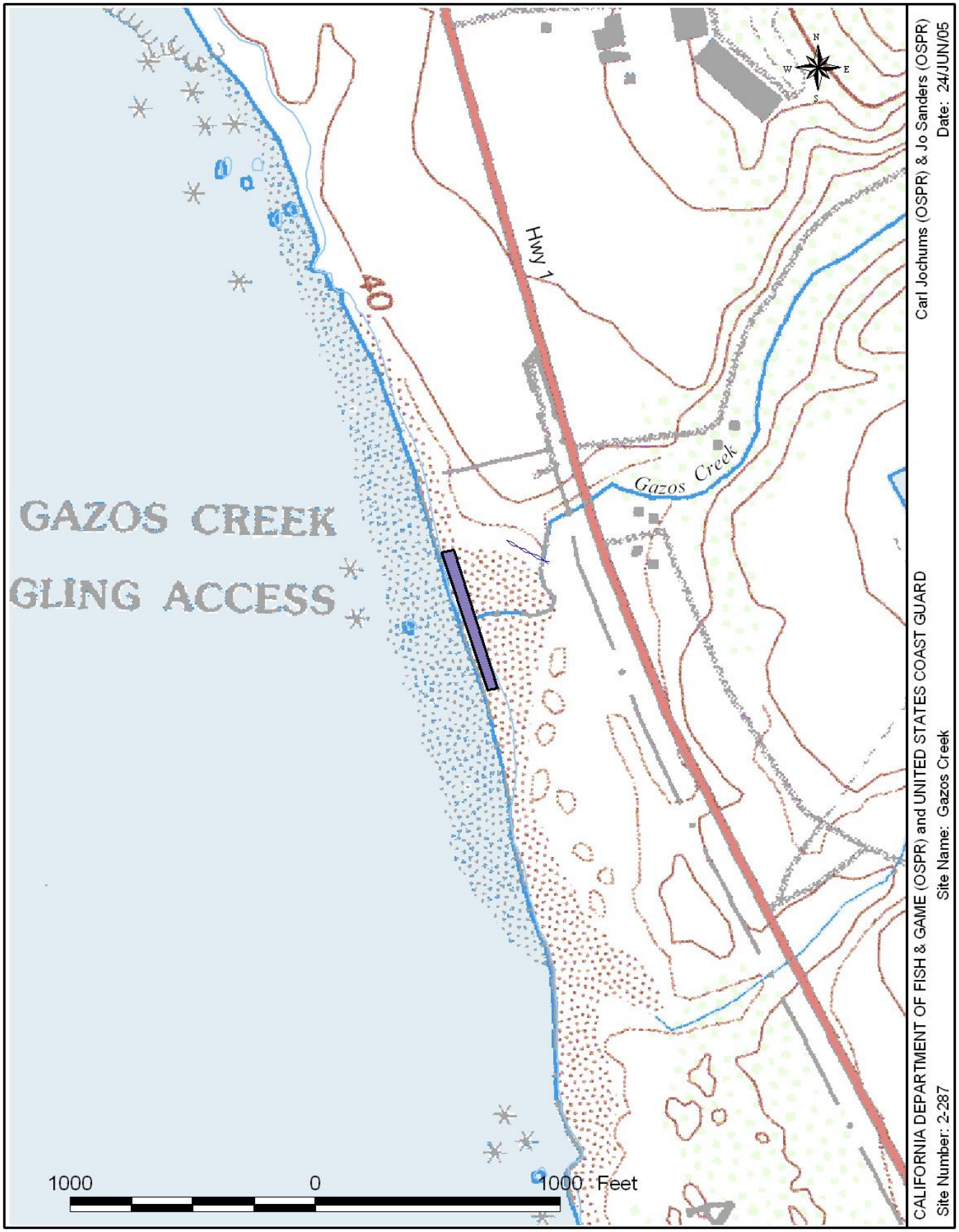
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, twenty two miles to the north.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Gazos Creek parking lot is suitable for a small staging area or field post. The Half Moon Bay airport is suitable for a large staging area. Smaller staging areas and field posts may be located at Ano Nuevo State Park or Pigeon Point Lighthouse. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-289 -B Site Summary- Whitehouse Creek 2-289 -B

		Thomas Guide Location	Latitude N	Longitude W
County:	**San Mateo**	AAA San Mateo C	37 08.7	122 20.6
USGS Quad:	**Franklin Pt.**	NOAA Chart: **Pt Sur - S Francisco**		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

Whitehouse creek flows into the ocean about one mile southeast of Franklin Point. There was no lagoon present when the SISRS team visited the site in 1998. Small creek flows across a fine to medium grained sand beach

SEASONAL and SPECIAL RESOURCE CONCERN

This anadromous fish stream is a "B" priority year round. Adult fish will enter the creek from Nov. to Apr. Smolts may be in the creek all year long.

RESOURCES OF PRIMARY CONCERN

Steelhead trout migrate upstream from November to January, while downstream migrants use the creek from Febuary to May and smolts may be present year-round.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Laurie Briden	CA Dept of Fish & Game, Bay/Delta	(209) 955-7800
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Jennifier Nelson	CA Dept. of Fish & Game	(408) 649-7153

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	37 08.7	122 20.6

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Oil in the creek could injure steelhead trout smolts.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches. The eroding cliff face is unstable, do not stand on the edge of the cliff, and when on the beach beware of the potential of falling rocks.

SITE STRATEGIES

Strategy 2-289.1 Objective: Exclude oil from entering

ACP DATE 1/1/2000

Build a dam near the high tide line using 500 sand bags. Place 50 feet of sorbent or swamp boom behind the dam to prevent the upstream migration of any oil that is splashed over the dam.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-289.1	0	50									500 sandbags, 5 shovels	10	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 25 miles. Park along highway 1 near an Eucalyptus grove, and hike approximately 1/2 mile across the marine terrace to the shoreline. The Department of Parks and Recreation may provide access for vehicles if it is necessary to deliver equipment to the shoreline. Whitehouse creek flows into the ocean about one mile southeast of Franklin Point. There was no lagoon present when the SISRS team visited the site in 1998.

LAND ACCESS: foot only

WATER LOGISTICS: no access for boats
Limitations: depth, obstruction

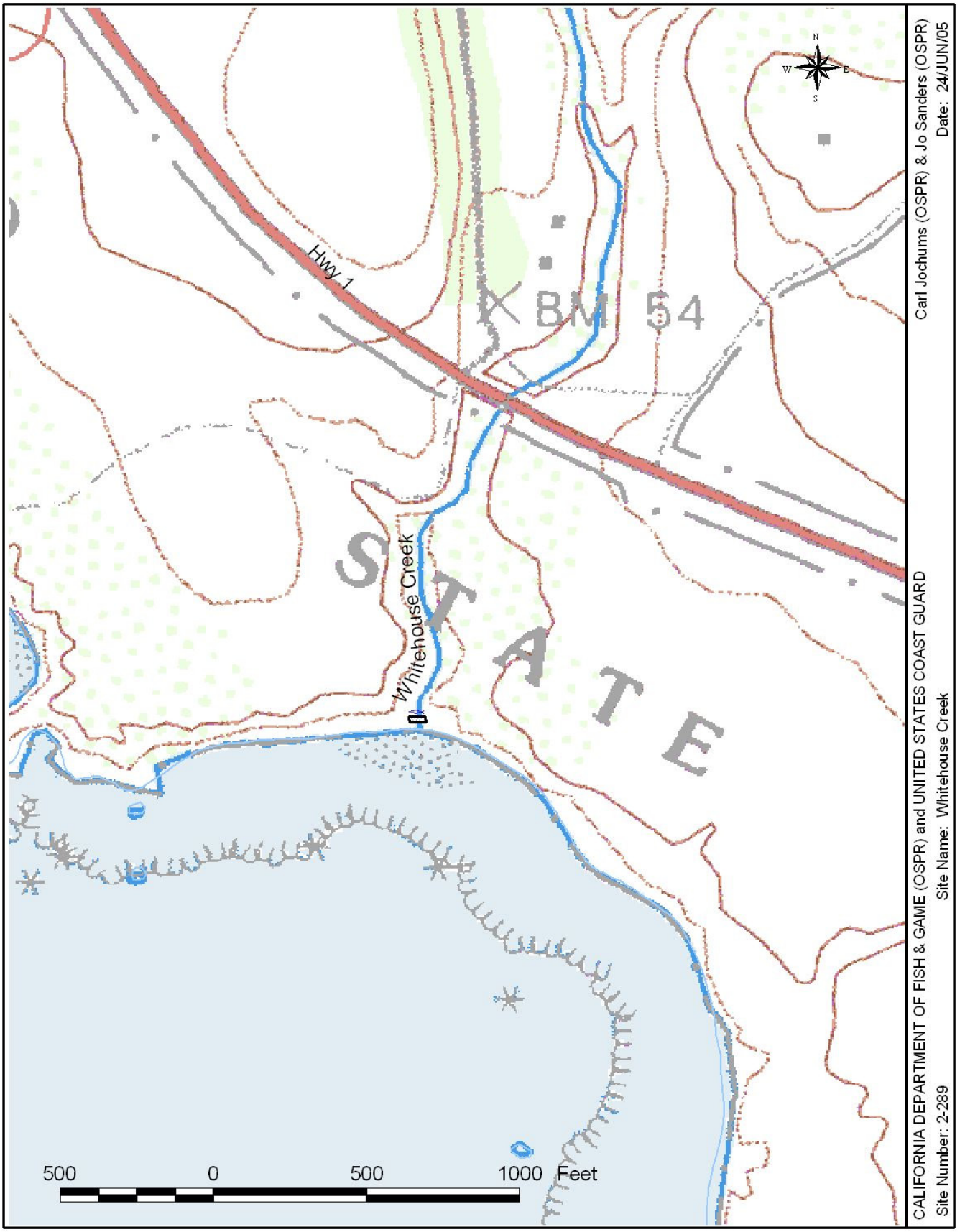
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, 25 miles to the north

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Ano Nuevo State Park has room for a small staging area or field post. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-291 -A Site Summary- Cascade Creek 2-291 -A

County:	San Mateo	Thomas Guide Location	Latitude N	Longitude W
USGS Quad:	Franklin Pt.	AAA San Mateo C	3 7 10	122 20.6
		NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

Two miles south of Franklin Pt. Cascade Creek flows out of a high freshwater marsh into a cobble beach about two miles southeast of Franklin Point. There was no lagoon present when the SISRS team visited the site in 1998. Driftwood in the marsh indicates that waves toss debris into the marsh during extreme high tides.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priortiy year round.

RESOURCES OF PRIMARY CONCERN

The freshwater marsh will require cleanup and restoration if oil enters it.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Burney LeBoeuf, Ph.D	UC Santa Cruz	(831) 459-2845
	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 10	122 20.6

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The marsh would be seriously injured if oil entered it.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches.

SITE STRATEGIES

Strategy 2-291.1 Objective: Exclude oil from entering the marsh.

ACP DATE 1/1/2000

During extreme high tide events it may be helpful to build a filter fence or even build a wall across the face of the marsh using debris and cobbles from the beach. Sand bags may be helpful too. There was no sand available the day the SISRS team visited the site, however, there may be sand available in some years and the bags could be filled with gravel or even cobbles. Five hundred bags would provide an additional margin of safety against an extreme high tide. Covering the debris wall with plastic and weighting it down with cobbles or sandbags may make cleanup easier.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-291.1	0	0	0	0	0	0	0	0			1 roll plastic, 500 sandbags, shovels	10	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 25 miles. Park along highway 1 near an Eucalyptus grove, and hike approximately 1/2 mile across the marine terrace to the shoreline. The Department of Parks and Recreation may provide access for vehicles if it is necessary to deliver equipment to the shoreline. Two miles south of Franklin Pt.

LAND ACCESS: foot only

WATER LOGISTICS: no access from water.

Limitations: depth, obstruction

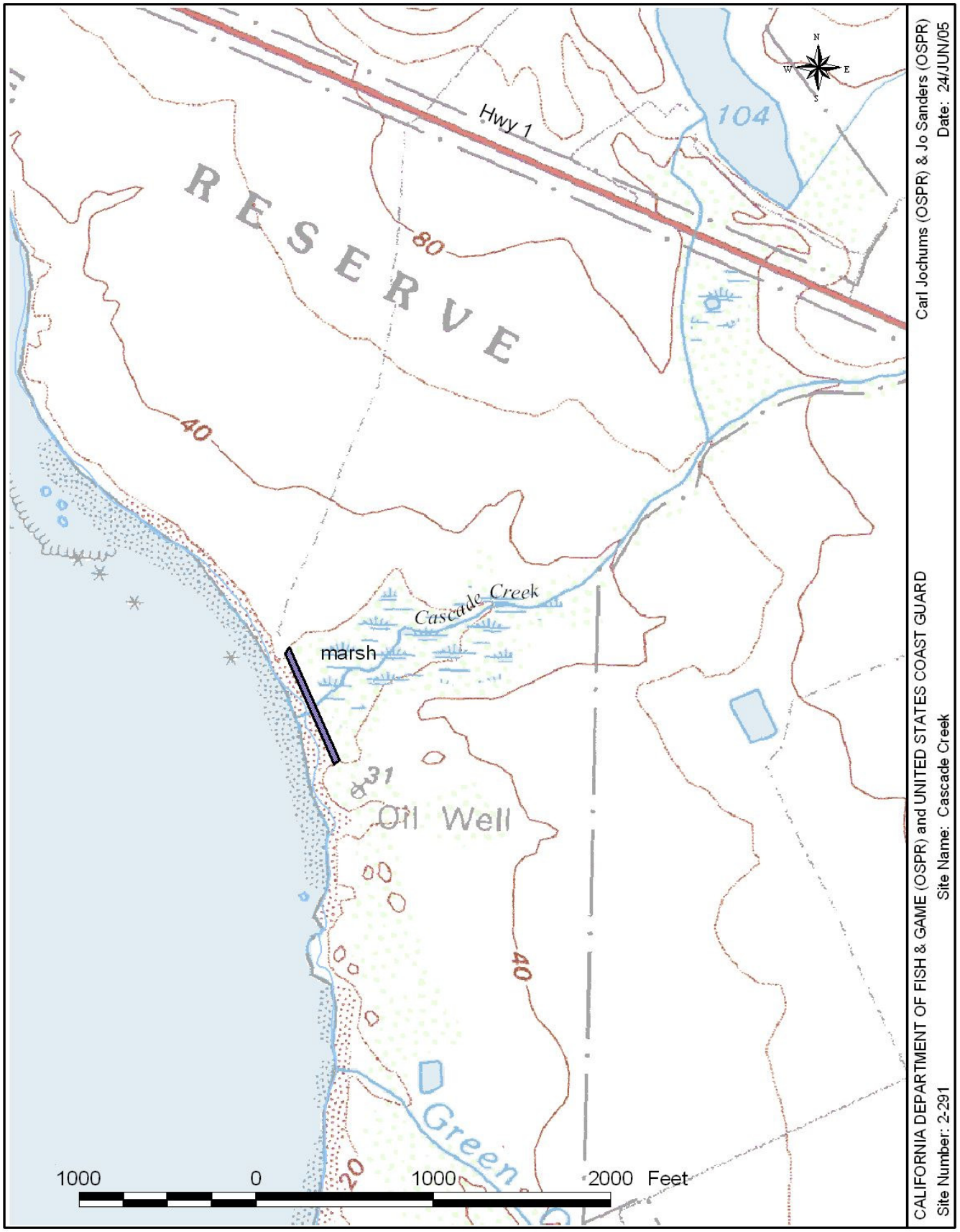
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, 25 miles to the north

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Ano Nuevo State Park has room for a small staging area or field post. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-293 -A Site Summary- Ano Nuevo Island 2-293 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo	AAA San Mateo C	3 7 06	122 20
USGS Quad:	Ano Nuevo, CA	NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

The island is 1/4 mile long and lies 1/2 mile off Pt. Ano Nuevo. A low elevation rock island with little to no vegetation. The island's shores and surrounding washrocks are primarily wave-cut rocky intertidal platforms. On the lee side of the island is a triangular shaped sand beach. A shallow rocky bench extends between the island and Ano Nuevo Pt.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority year round. Beach, rocks, and entire island used by pinnipeds throughout the year. The surrounding nearshore waters are used by pinnipeds and several seabird species. Seabirds and pinnipeds are most sensitive during breeding seasons from Dec. - Aug.

RESOURCES OF PRIMARY CONCERN

Several threatened and endangered species use the island and surrounding waters; such as the Steller sea lion (May - Sept), marbled Murrelet, Calif. Brown pelican, and southern sea otter. Other sensitive species that breed, forage, and/or haulout on or around this island include the northern elephant seal (Dec. - Aug), Calif. Sea lion (year-round), Harbor sea (year-round) and Rhinocerous Auklet. Designated as a California State Reserve and located within the Monterey Bay National Marine Sanctuary.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Baylands Nature Preserve Office	Baylands Nature Preserve	(650) 329-2506
	Laurie Briden	CA Dept of Fish & Game, Bay/Delta	(209) 955-7800
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Andrew Galvin	Ohlone Nation	(510) 810-9701
	Burney LeBoeuf, Ph.D	UC Santa Cruz	(831) 459-2845
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Gary Strachan	CA State Parks, Ano Nuevo (SP)	(650) 879-0454

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 06	122 20

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Several threatened and endangered species use the island and surrounding waters; such as the Steller sea lion (May - Sept), marbled Murrelet, Calif. Brown pelican, and southern sea otter. Other sensitive species that breed, forage, and/or haulout on or around this island include the northern elephant seal (Dec. - Aug), Calif. Sea lion (year-round), Harbor sea (year-round) and Rhinocerous Auklet. The oiling of any of these animals will require a difficult and dangerous capture and rehabilitation effort.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. Elephant seals and Steller sea lions breed on the island. They are capable of moving very rapidly and killing or severely injuring people. There are countless rocks, both exposed and submerged, in the waters around the island. Navigation in the appropriate vessel is possible, but potentially hazardous.

SITE STRATEGIES

Strategy 2-293.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife**

ACP DATE 1/1/2000

No defense of this site will be easy or have great promise of success. The strategy must be adapted to the conditions encountered at the time of the event. Consider reducing the amount of oil threatening the shoreline through offshore activities such as: mechanical skimming, in-situ burning, and dispersant application.

Under some conditions it may be possible to effectively deploy a deflection boom on the upwind side of the island to deflect oil around the island. The size of boom must be appropriate to the sea state encountered. Several boom boats would be required to implement this strategy. Four small inflatables that can be launched from the sand beach on the point could be used to shuttle people and debris from the island to the mainland.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-293.1	2000				40	40	4	2					16	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 27 miles to Ano Nuevo State Park entrance. The island is 1/4 mile long and lies 1/2 mile off Pt. Ano Nuevo.

LAND ACCESS: foot only

WATER LOGISTICS:
Limitations: depth, obstruction — Shallow water with numerous obstructions and breakers.

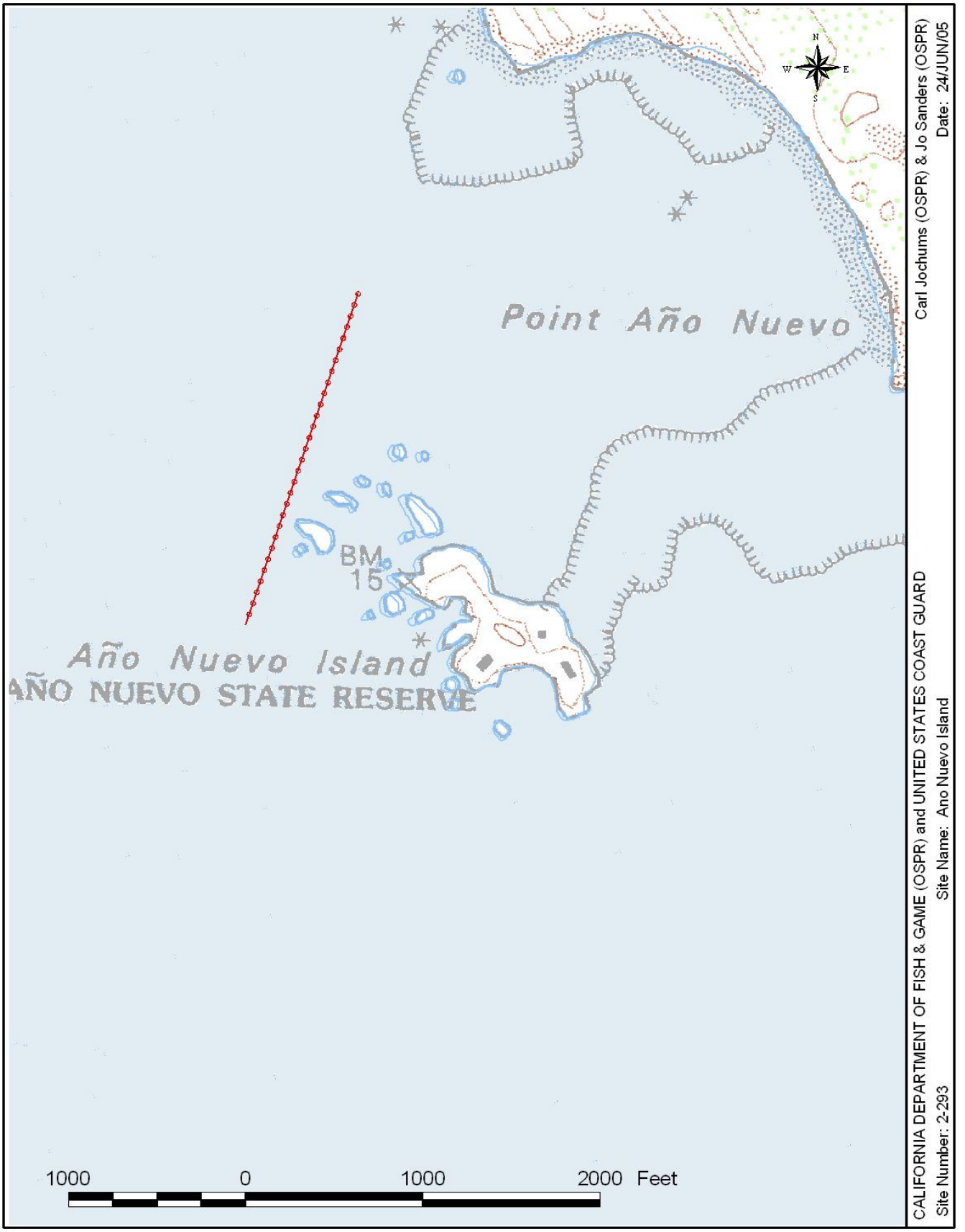
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, thirty miles to the north.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Ano Nuevo State Park has space for a limited staging area and field post. Communications to a distant command post can be difficult. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-294 -A Site Summary- Point Ano Nuevo

2-294 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo	AAA San Mateo C	3 7 07	122 20
USGS Quad:	Ano Nuevo	NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

Point Ano Nuevo is a prominent headland near the southern boundary of San Mateo County. The Point is surrounded on the north and west by a rocky intertidal bench just offshore. Sandy beaches and vegetated sand dunes are present from the lower intertidal to above the high tide area. A shallow rocky bench extends between the island and Ano Nuevo Point.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority year round. Beach, rocks, and entire island used by pinnipeds throughout the year. The surrounding nearshore waters are used by pinnipeds and several seabird species. Seabirds and pinnipeds are most sensitive during breeding seasons from Dec. - Aug.

RESOURCES OF PRIMARY CONCERN

Several threatened and endangered species utilize the mainland and surrounding waters; such as the Steller sea lion (May - Sept), marbled Murrelet, Calif. Brown pelican, and souther sea otter. Other sensitive species that breek, forage, and/or haulout on or around this island include the northern elephant seal (Dec. - Aug), Calif. Sea lion (year-round), Harbor sea (year-round) and Rhinocerous Auklet. Designated as a California State Reserve and located within the Monterey Bay National Marine Sanctuary.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Laurie Briden	CA Dept of Fish & Game, Bay/Delta	(209) 955-7800
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Burney LeBoeuf, Ph.D	UC Santa Cruz	(831) 459-2845
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Gary Strachan	CA State Parks, Ano Nuevo (SP)	(650) 879-0454

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 07	122 20

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Several threatened and endangered species use the island and surrounding waters; such as the Steller sea lion (May - Sept), marbled Murrelet, Calif. Brown pelican, and southern sea otter. Other sensitive species that breed, forage, and/or haulout on or around this island include the northern elephant seal (Dec. - Aug), Calif. Sea lion (year-round), Harbor seal (year-round) and Rhinocerous Auklet. The oiling of any of these animals will require a difficult and dangerous capture and rehabilitation effort.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. Elephant seals and Steller sea lions breed on the island. They are capable of moving very rapidly and killing or severely injuring people. There are countless rocks, both exposed and submerged, in the waters around the island. Navigation in the appropriate vessel is possible, but potentially hazardous.

SITE STRATEGIES

Strategy 2-294.1 Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife

ACP DATE 1/1/2000

No defense of this site will be easy or have great promise of success. The strategy must be adapted to the conditions encountered at the time of the event. Consider reducing the amount of oil threatening the shoreline through offshore activities such as: mechanical skimming, in-situ burning, and dispersant application.

Under some conditions it may be possible to effectively cascading deflection boom offshore outside the breakers to deflect oil around the island. The size of boom must be appropriate to the sea state encountered. Several boom boats would be required to implement this strategy.

Strategy 2-294.2 Objective: Shoreline Cleanup of oil stranded on beaches

ACP DATE 1/1/2000

Manual removal using rakes, shovels, pitch forks and plastic bags. Ten people with plywood sheets must be available to protect workers from pinnipeds. Expect to remove 500 cubic yards of debris, mostly kelp.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-294.1	0	0	0	0	0	0	0	0	0		See Ano Nuevo Island strategy		
2-294.2	0	0	0	0	0	0	0	0	0		2 ATVs, front loader, dump truck		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 27 miles to Ano Nuevo State Park entrance. Point Ano Nuevo is a prominent headland near the southern boundary of San Mateo County.

LAND ACCESS: 4WD vehicles may be able to travel on some beaches.

WATER LOGISTICS:
Limitations: depth, obstruction — Shallow water with numerous obstructions and breakers.

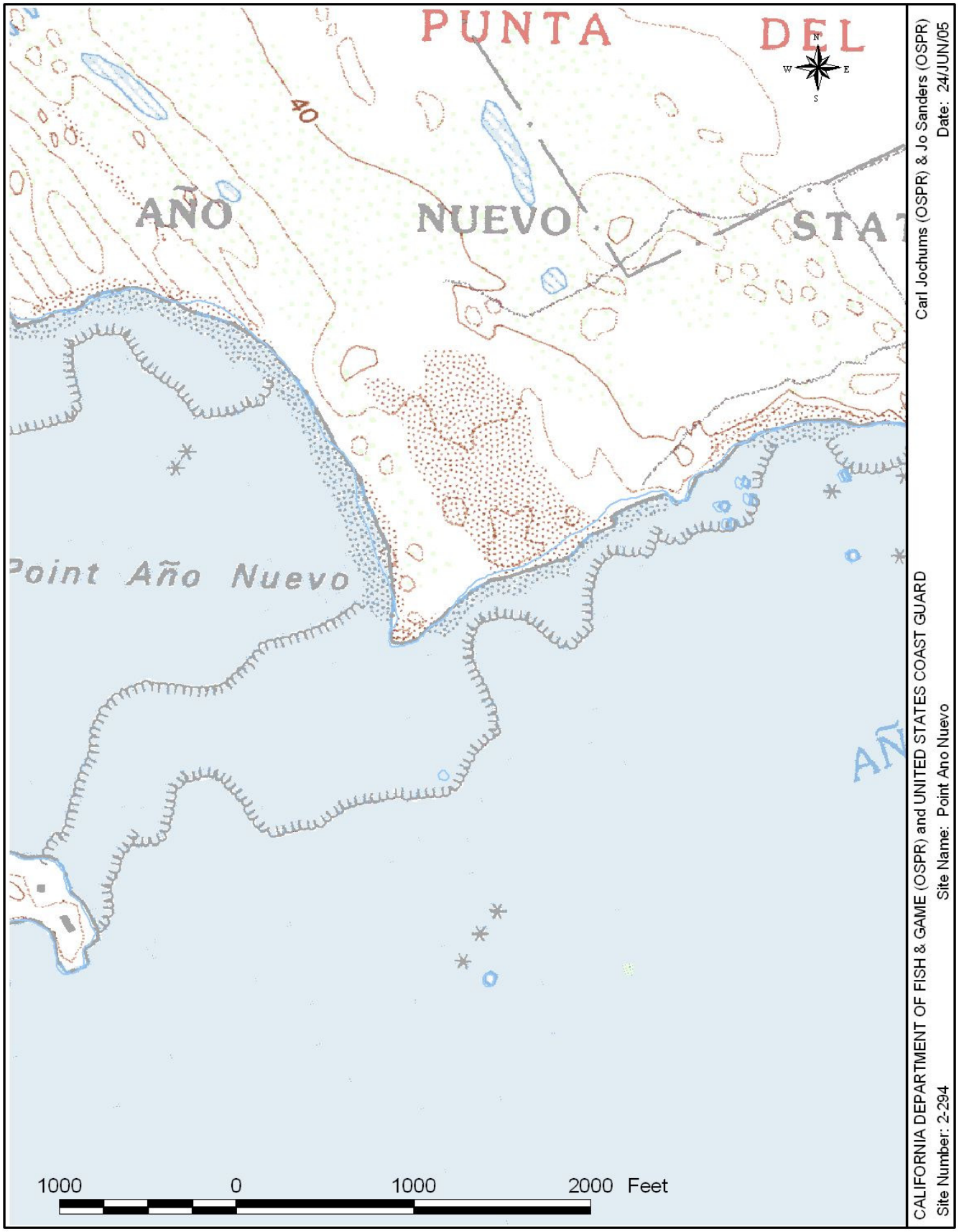
Launching, Loading, Docking and Services Available: — Nearest boat facilities are in Half Moon Bay, thirty miles to the north.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The Ano Nuevo State Park has space for a limited staging area and field post. Communications to a distant command post can be difficult. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Site Summary- Ano Nuevo Creek

2-296 -B

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo	AAA San Mateo C	3 7 07	122 18
USGS Quad:	Ano Nuevo	NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This creek flows into Ano Nuevo Bay southeast of Ano Nuevo Point near highway 1. Access is by foot from the visitor's center. Small creek flowing across a mixed sand and gravel beach. There is sometimes a small lagoon behind the berm top.

SEASONAL and SPECIAL RESOURCE CONCERN

This anadromous fish stream is a "B" priority year round. Adult fish will enter the creek from Nov. to Apr. Smolts may be in the creek all year long.

RESOURCES OF PRIMARY CONCERN

Steelhead trout migrate upstream from November to January, while downstream migrants use the creek from February to May, and smolts are present year round.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Jennifier Nelson	CA Dept. of Fish & Game	(408) 649-7153
	Ken Oda	CA Dept. of Fish & Game	(650) 631-2534
	Gary Strachan	CA State Parks, Ano Nuevo (SP)	(650) 879-0454

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 07	122 18

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Oil in the creek or lagoon may kill or injure fish.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches. The eroding cliff face is unstable, beware of falling rocks.

SITE STRATEGIES

Strategy 2-296.1 Objective: Exclude oil from entering the lagoon.

ACP DATE 1/1/2000

If the source of the oil is on the highway, build underflow dams in the creek upstream of the lagoon, and recover the oil using a skimmer or the appropriate sorbent material.

If the source is at sea, consider using oil snare on a rope to collect oil washing over the top of the berm. If oil reaches the lagoon, do not contain in the lagoon, but allow it to run back to the sea. If there is insufficient flow in the creek to quickly flush the oil out of the lagoon, consider using trash pumps to pump seawater into the lagoon to flush the oil out.

Strategy 2-296.2 Objective: Remove oil that presents a threat to wildlife.

ACP DATE 1/1/2000

Manual removal of surface oil. Consider removing burried oil if it will present a significant threat to birds and mammals when washed out by the winter storms.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-296.1	0	0	2250 OS	200	10	10 stakes	0	0			500 sand bags,160' 6" pvc pipe,16 elbo,tr	12	
2-296.2	0										rakes, shovels, plastic bags, ATV	6	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 27 miles to Ano Nuevo State Park. This creek flows into Ano Nuevo Bay southeast of Ano Nuevo Point near highway 1. Access is by foot from the visitor's center.

LAND ACCESS: An ATV may be useful for transporting equipment to the beach

WATER LOGISTICS: Boats may be able to land on the beach.

Limitations: depth, obstruction

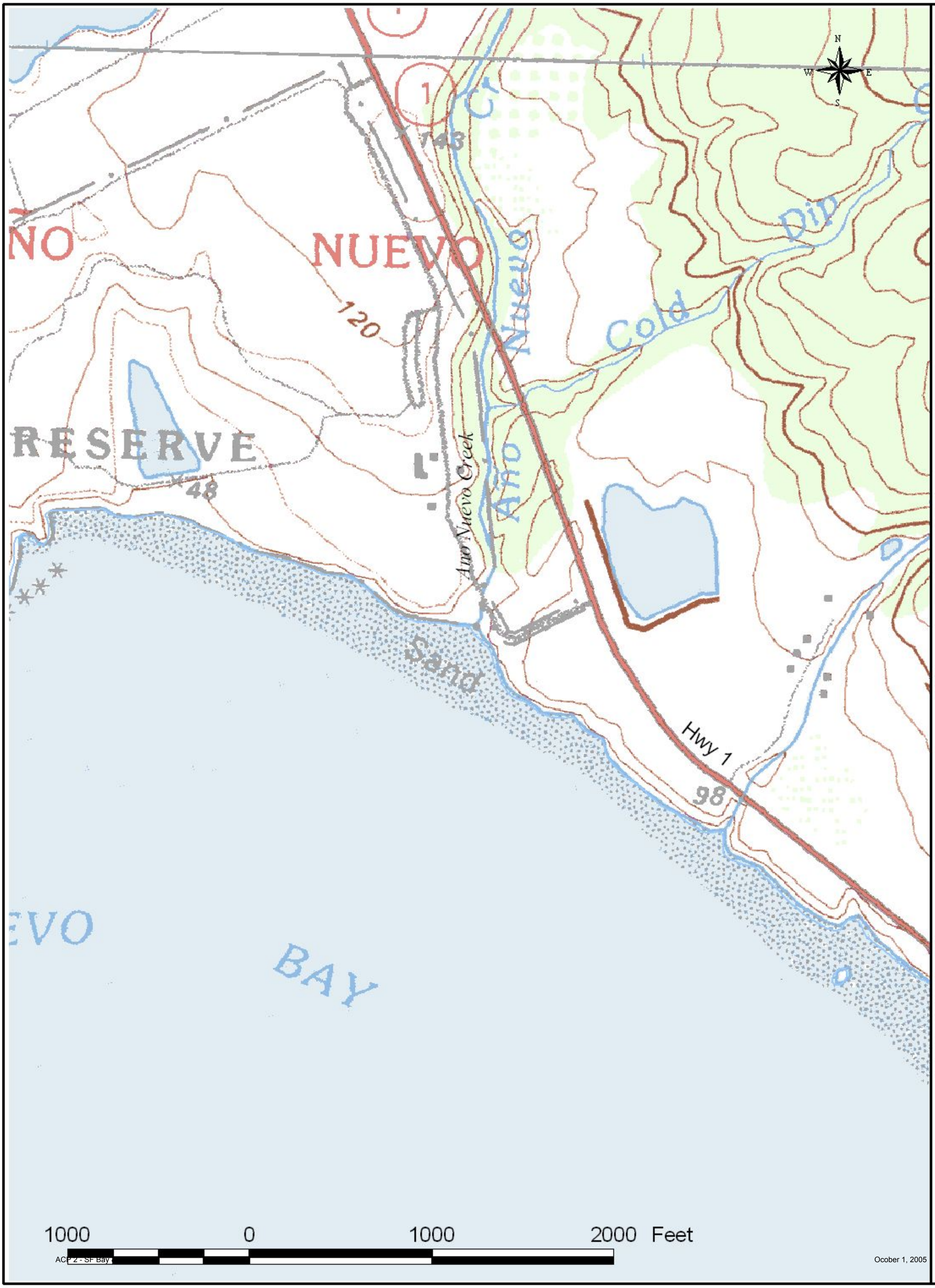
Launching, Loading, Docking and Services Available: Nearest boat facilities are in Half Moon Bay, fifteen miles to the north

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Ano Nuevo State Park has areas suitable for a small staging area or field post. Responders may have to travel north on highway 1 to find a location from which to make radio or cell phone contact with a distant command post. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


NUEVO
RESERVE
BAY
Nuevo Creek
Ano Nuevo Creek
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ACP 2 - SF Bay
Ocober 1, 2005
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Name: Ano Nuevo Creek
Site Number: 2-296
Carl Jochums (OSPR) & Jo Sanders (OSPR)
Date: 24/JUN/05

2-298 -A Site Summary- Franklin Pt. To Waddell Creek 2-298 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo	AAA San Mateo C	3 7 09	122 22
USGS Quad:	Franklin Pt. & Ano Nuevo	NOAA Chart: Pt Sur - S Francisco		

Last Page Update : 1/1/2000

SITE DESCRIPTION:

This is an ocean site from Franklin Point to Waddell Creek extending from the surf zone out 5 miles. The shoreline character of this site changes from north to south. The two miles southeast of Franklin Point are characterized by narrow fine sand beaches between low (20 foot high) cliffs. The low intertidal to subtidal area is dominated by wave cut platforms and boulders. There is a broad marine terrace between the highway and the seacliff. The beach is wider over the next two miles. The cliff gives way to dunes and the offshore rock is covered with sand in most places. The three miles of shoreline between Pt Ano Nuevo and Waddell Creek are backed by a high cliff (100 to 500 feet high). The southern half of this cliff is known as Waddell Bluff. There is a narrow beach of sand to mixed sand and gravel. In the intertidal and subtidal areas the wave cut platforms are intermitently exposed by the seasonally shifting sand. Six creeks flow across the beaches in this seven mile stretch of shoreline.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority year round.

RESOURCES OF PRIMARY CONCERN

The nearshore waters are foraging habitat for the state endangered and federally threatened Marbled murrelet. Occurs from Half Moon Bay to Santa Cruz, however, the highest concentration of birds in the state occurs from Franklin Pt to Waddell Creek. Can be found all year long on the water during the daylight hours. At night they fly inland to nest in the forests. This area is also used by several other seabirds and pinnipeds. Snowy Plovers winter here. They forage in the upper intertidal and supratidal portions of sandy beaches.

The site lies within the Monterey Bay National Marine Sanctuary.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Andrew DeVogelaere, Ph.D.	National Marine Sanctuary, Monterey Bay	(408) 647-4213
	Paul Kelly	CA Dept. of Fish & Game	(916) 323-4335
	PRBO Main Office	Pt. Reyes Bird Observatory	(415) 868-1221
	Gary Strachan	CA State Parks, Ano Nuevo (SP)	(650) 879-0454

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA San Mateo C San Mateo	Pt Sur - S Francisco	3 7 09	122 22

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Oil in the nearshore waters can be expected to injure or kill many of the state endangered and federally threatened marbled murrelets. Marbled murrelets occur in nearshore waters from Half Moon Bay to Santa Cruz, however, the highest concentration of birds in the state occurs from Franklin Pt to Waddell Creek. They can be found all year long on the water during the daylight hours. At night they fly inland to nest in the forests. This area is also used by several other seabirds and pinnipeds. Snowy Plovers winter here. They forage in the upper intertidal and supratidal portions of sandy beaches. Avoid disturbing them by working on the ebb tide and keeping personnel and equipment on the wet sandy portion of beaches when it is safe to do so.

HAZARDS and RESTRICTIONS:

The surf occasionally washes people and equipment out to sea. The rising tide can trap people and equipment on isolated beaches. The eroding cliff face is unstable, do not stand on the edge of the cliff, and when on the beach beware of falling rocks.

SITE STRATEGIES

Strategy 2-298.1 **Objective: offshore containment and recovery activities to minimize or avert oil from impacting shoreline habitats and wildlife. Clean beached oil immediately to prevent oiling of birds in upper intertidal areas.**

ACP DATE 10/1/2005

Reduce the amount of oil that reaches the waters off this shoreline. Consider mechanical recovery, burning, and the application of chemical dispersants to oil expected to reach the nearshore waters off this coastline. Keep helicopters away from old growth redwood trees to avoid disturbing the Marbled Murrelets. Promptly remove any oil that strands on sandy beaches. Manually remove oil from the last high tide swash on the falling tide. To minimize disturbance of snowy plovers, crews should not go any farther above the last high tide swash than necessary to recover the oil.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-298.1	0	0	0	0	0	0	0	0			ART & On-Water Skimming		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Oakland take Hwy 880 south, turn west onto Hwy 92 to Halfmoon Bay. Turn south onto Hwy 1. Drive down the coast approximately 25 miles. This is an ocean site from Franklin Point to Waddell Creek extending from the surf zone out 5 miles.

LAND ACCESS: 4WD vehicles with high floatation tires may be able to travel on beach

WATER LOGISTICS:
Limitations: depth, obstruction — Dangerous surf and submerged rocks in the subtidal

Launching, Loading, Docking and Services Available: — Nearest boat facilities are in Half Moon Bay, 25 miles to the north

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Ano Nuevo State Reserve has areas suitable for a small staging area or field post. Responders may have to search for a site that permits radio and cell phone contact with a distant command post. The marine terrace north of Pt. Ano Nuevo may offer better communications. The Half Moon Bay airport is suitable for a large staging area. San Mateo County OES can identify an appropriate command post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Franklin Point

Hwy 1

PUNTA DEL ANO NUEVO STATE RESERVE

ANO NUEVO STATE RESERVE

ANO NUEVO BAY

Point Año Nuevo

Año Nuevo Island

Waddell Creek

5000 0 5000 10000 Feet

ACP 2 - SF Bay & Delta GRA2 9842.1 - 126 Ocober 1, 2005

CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD

Site Name: Franklin Point to Waddell Creek

Site Number: 2-298

Carl Jochums (OSPR) & Jo Sanders (OSPR)

Date: 24/JUN/05

9842.2 Cultural and Other Resources at Risk

9842.21 Cultural Resources, Historic and Archeological Resources – see Section 9802.1,
Section 9840 for contact table, and
individual Site Summaries

9842.22 Essential Fish Habitat – see Section 9802.2

9842.23 Other Resources at Risk - This section is reserved for specialized information regarding natural resources that occur in this particular geographic area; such as: seasonal migratory waterfowl and shorebird locations and densities; salmonid fish migration periods; or special considerations for eelgrass beds.

9842.3 Economic Sites

Strictly economic resources are designated as the third priority for dedication of oil spill response resources, following human health and safety and environmental resources. The economic sites are ranked using a continuation of the environmental scale with D, E, and F categories. Economic resources that have a greater potential for long-term damages receive a higher rank or priority for emergency response.

The following criteria or definitions are used to categorize economic resources in terms of priority for response:

D = Economic activities and resources which require high water quality for their operations or existence. Resources that fall into this category would face severe, long-term economic impacts from a spill.

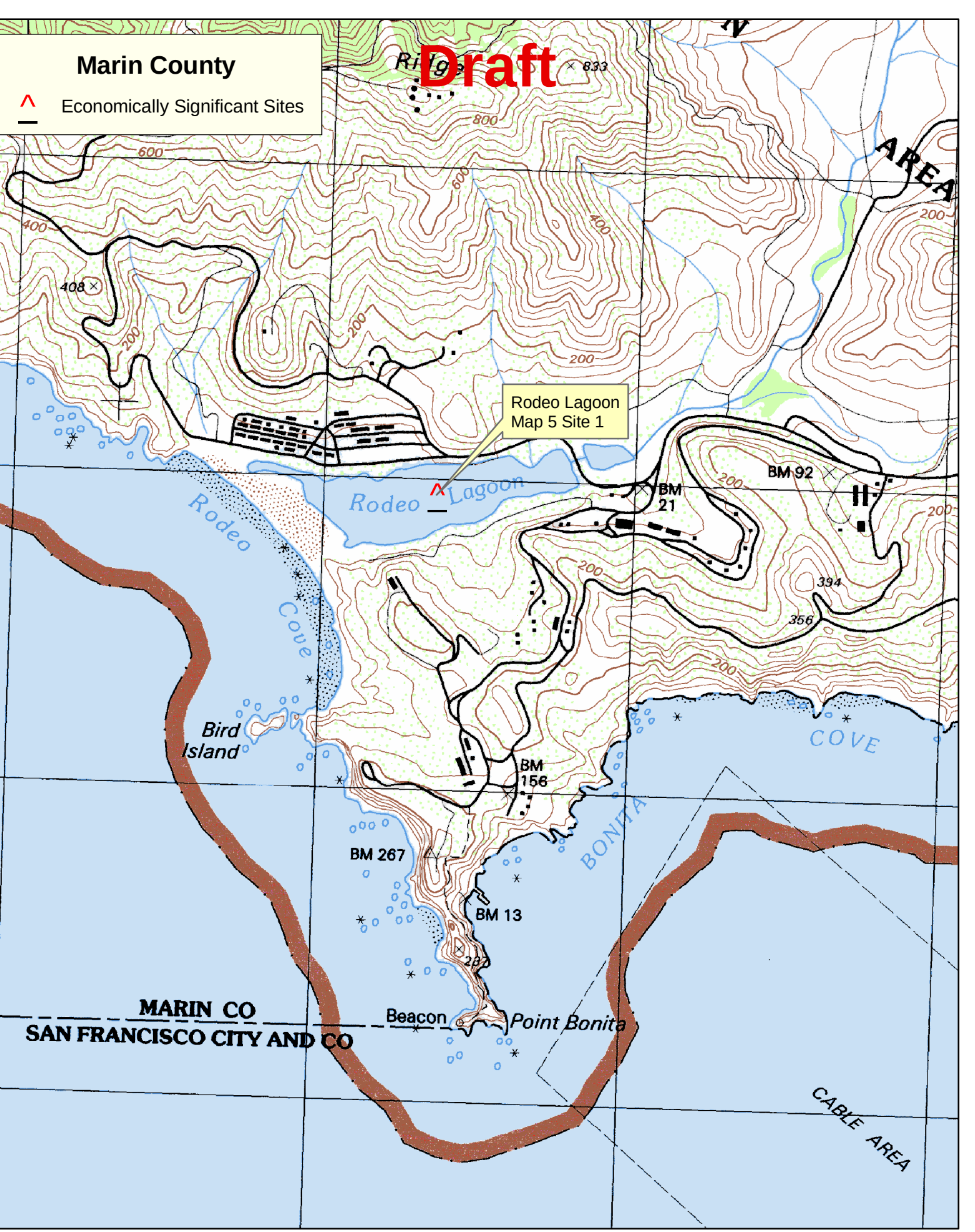
E = Facilities, businesses, or resources which directly use coastal or bay waters within their economic activity and which are at risk of oiling from a spill in marine waters. The resources falling into this category would face significant disruption of their activity, but shorter term potential damages from oiling that resources “D” category.

F = This category contains marine associated facilities, businesses and resources. These resources would face economic impacts from a marine spill, but do not depend directly on marine water for their economic base. Resources in this category will tend to face less severe damages than those identified in categories D or E.

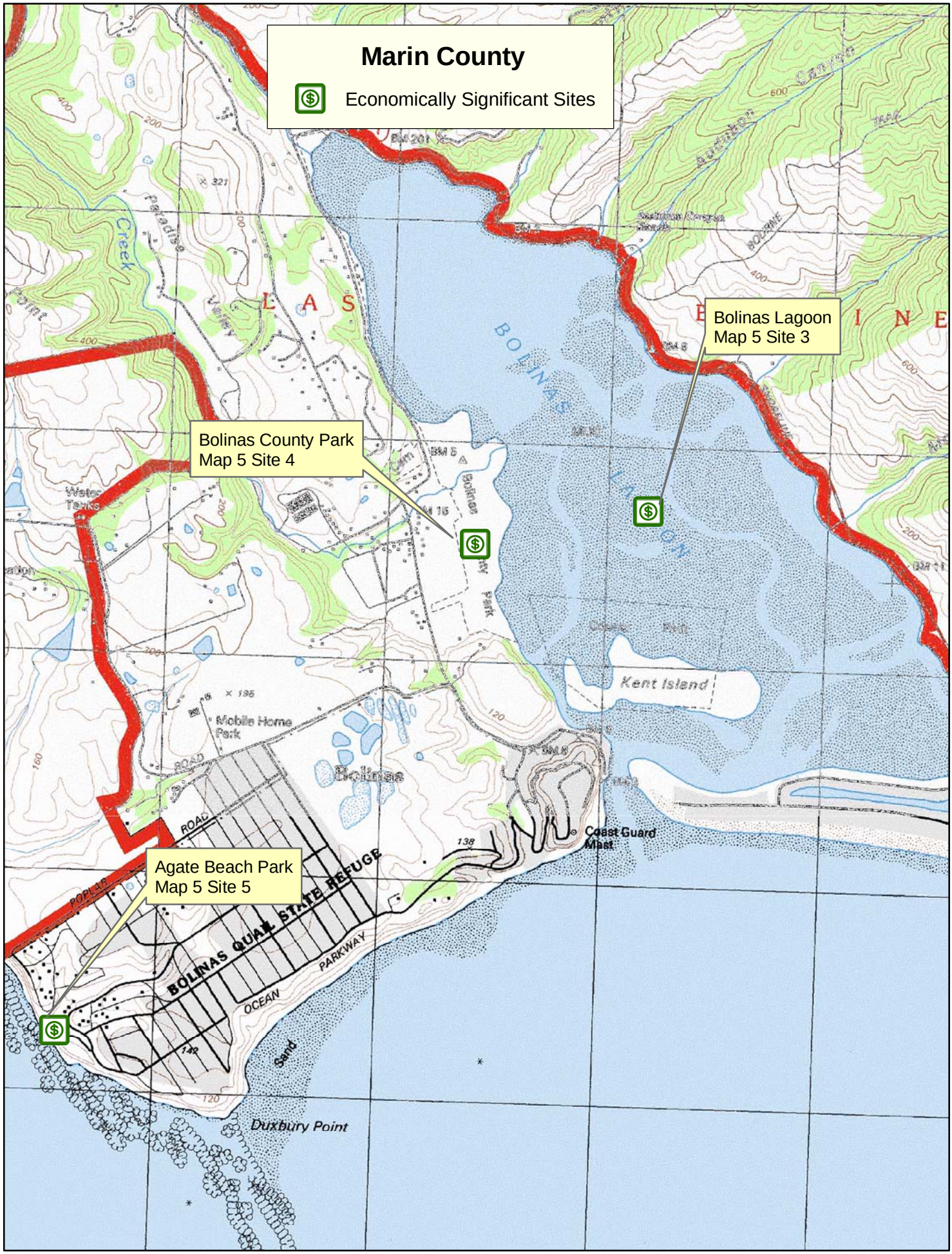
In the following section, economic sites found within the GRA are listed in table format, which contain information such as latitude, longitude, economic sensitivity, etc. Following the table are diagrams denoting the location of an economically sensitive site(s). Diagrams are organized alphabetically by county, then numerically by map and site number.

Economic Sites in GRA 2

Line No.	Map Description	Site Name	Site Description	Latitude	Longitude	Economic Sensitivity	Site Function	Site Address	GIS Site No.
1	Map 5 Site 1 Marin County	Rodeo Lagoon		37.83	-122.53	E	GGNRA, Public Recreation Area		41059
2	Map 5 Site 2 Marin County	Stinson Beach		37.90	-122.65	E	Public Recreation Area		41060
3	Map 5 Site 3 Marin County	Bolinas Lagoon		37.92	-122.68	E	Open Space Preserve, Nature Preserve, Public Recreation Area		41061
4	Map 5 Site 4 Marin County	Bolinas County Park		37.92	-122.69	E	Public Recreation Area		41062
5	Map 5 Site 5 Marin County	Agate Beach Park		37.90	-122.71	E	County Recreation Area		41063
6	Map 5 Site 6 Marin County	Limantour Beach		38.03	-122.90	E	Federal Recreation Area		41064
7	Map 5 Site 7 Marin County	Drakes Beach and Drakes Bay		38.03	-122.96	E	Federal Recreation Area and Mariculture Leases (In Bay)		41065
8	Map 5 Site 15 Marin County	Muir Beach		37.86	-122.58	E	Recreational Area		41073
9	Map 1 Site 1 San Francisco County	Fort Funston Beach		37.71	-122.50	F	Recreation, Surfing, Fishing, Swimming, Hang Gliding		75001
10	Map 1 Site 2 San Francisco County	Ocean Beach		37.76	-122.51	F	Recreation, Surfing, Swimming, Fishing		75002
11	Map 1 Site 3 San Francisco County	Cliff House Restaurant		37.78	-122.51	F	Restaurant, Tourist Shops, Tour Buses, Visitor Center		75003
12	Map 1 Site 4 San Francisco County	Louis Restaurant		37.78	-122.51	F	Restaurant		75004
13	Map 1 Site 5 San Francisco County	Mile Rock Beach		37.79	-122.50	F	Recreation, Scenic, Fishing		75005
14	Map 1 Site 6 San Francisco County	China Beach		37.79	-122.49	E	Recreation, Swimming, Fishing, Scenic		75006
15	Map 1 Site 7 San Francisco County	Baker Beach		37.79	-122.48	E	Recreation, Scenic, Fishing		75007
16	Map 1 Site 2 San Mateo County	Pacifica State Beaches	Mid point covering large area	37.62	-122.50	E	Publicly Managed Recreation Area		81001
17	Map 1 Site 3 San Mateo County	Pacifica Pier	No logistical support equipment. Often closed for public safety	37.63	-122.50	F	Public Fishing Pier		81002
18	Map 1 Site 4 San Mateo County	Gray Whale Cove State Beach	South End of Devils Slide	37.57	-122.51	E	State Owned Property but Privately Managed Recreational Beach		81003
19	Map 1 Site 6 San Mateo County	Montara Point Lighthouse		37.54	-122.52	E	AYH Youth Hostel		81004
20	Map 1 Site 7 San Mateo County	Fitzgerald Marine Reserve	Moss Beach to Piller Pt. Including San Vicente Creek	37.51	-122.51	D,E	Publicly Managed Marine Reserve, Private Restaurant & Residences on Bluffs		81005
21	Map 1 Site 8 San Mateo County	Piller Point Harbor	Off Hwy 1, North of Half Moon Bay Logistical Support Equipment Available	37.50	-122.49	E	Commercial, Sport and Recreational Fishing/Pleasure Crafts. Commercial Fish Processors/Restaurants.		81006
22	Map 1 Site 10 San Mateo County	Half Moon Bay to Santa Cruz Border	Marin's, Tunitas Creek Beaches, San Gregorio, Pomponio, & Pescadero, Bean Hollow State Beaches, Pescadero Marsh, Pigeon Point, Gazo Creek, Whitehouse Creek, Ano Nuevo State Reserve	37.24	-122.44	E	Beaches		81007


Marin County
Economically Significant Sites
Draft
Rodeo Lagoon
Map 5 Site 1
Rodeo Lagoon
Rodeo Cove
Bird Island
BM 92
BM 21
BM 156
BM 267
BM 13
394
356
COVE
BONITA
MARIN CO
SAN FRANCISCO CITY AND CO
Beacon
Point Bonita
CABLE AREA
0.15
0.3
0.6 Miles
ACR 2
SF Bay & Delta
GRA 2
9842
California Department of Fish and Game
Office of Spill Prevention and Response
October 1, 2008
Marin County Layout 014


Marin County
Economically Significant Sites
Stinson Beach
Map 5 Site 2
Muir Beach
Map 5 Site 15
MOUNT TAMALPAIS
STATE PARK
SAUCELITO
GOLDEN GATE NATIONAL RECREATION AREA
PACIFIC OCEAN
MUIR WOODS
NATIONAL MONUMENT
Muir Beach
Rocky Point
Gull Rock
Hill 640
Military Res
Van Wyck Camp
Camp Eastwood
Redwood Canyon
Steep Ravine
Kent Canyon
Frank Valley
0 0.25 0.5 1 1.5 Miles
AQP 2 SF Bay & Delta CRA 2
9842.3
October 1, 2005
Marin County Layout 015



0 0.125 0.25 0.5 Miles

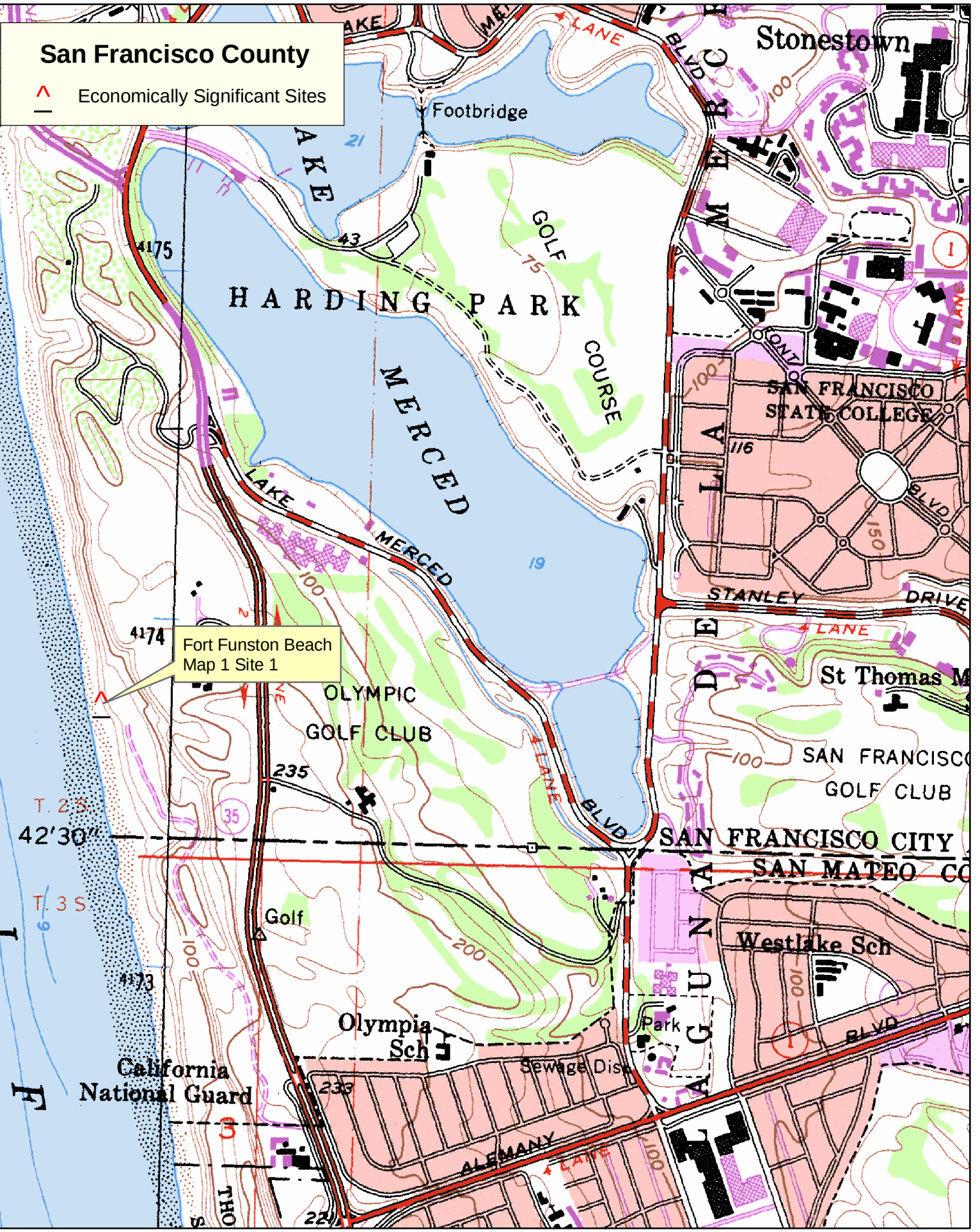
IACP 2 SF Bay & Delta - GRA 2

9842

California Department of Fish and Game
Office of Spill Prevention and Response
Marin County Layout 016

October 1, 2005


Marin County
Economically Significant Sites
Limantour Beach
Map 5 Site 6
Drakes Beach and Drakes Bay
Map 5 Site 7
0 0.25 0.5 1 1.5 Miles
ACP 2 - SF Bay & Delta - GRA 2
9842
October 1, 2005
California Department of Fish and Gar
Office of Spill Prevention and Respons
Marin County Layout 018


San Francisco County
Economically Significant Sites
Fort Funston Beach
Map 1 Site 1
HARDING PARK
LAKE MERCED
GOLF COURSE
Footbridge
Stonestown
SAN FRANCISCO STATE COLLEGE
OLYMPIC GOLF CLUB
SAN FRANCISCO GOLF CLUB
St Thomas M
SAN FRANCISCO CITY
SAN MATEO CO
Westlake Sch
Olympia Sch
California National Guard
Sewage Disp
Park
Golf
LAKE MERCED BLVD
STANLEY DRIVE
ALEMANY BLVD
LAGUNA
DE LA MERCED
T. 2 S
T. 3 S
42'30"
4175
4174
4173
4172
0.25
0.5 Miles
ACP 2 | SF Bay & Delta - GRA 2
9842
California Department of Fish and Game
Office of Spill Prevention and Response
San Francisco County Layout 001
October 1, 2005

0 0.125 0.25 0.5 Miles

ACP 2 - SF Bay & Delta - GRA 2

9842.

Department of Fish and Game
Office of Spill Prevention and Respons
San Francisco County Layout 002

October 1, 2005


San Francisco County
Economically Significant Sites
Mile Rock
Beacon
Little Mile Rock
SOUTH
Pyramid Rock
Black Head Rock
Lands End
Lobos Rock
Mile Rock Beach
Map 1 Site 5
Golf Course
CAMINO
Golf Course
FT MILEY
VA Hospital
376
Wreck
Point Lobos
Louis Restaurant
Map 1 Site 4
CLEMENT
POINT LOBOS AVE
Seal Rocks
Cliff House Restaurant
Map 1 Site 3
Sutro Heights Park
ANZA ST
ANZA STREET
46TH AVE
BALBOA
BM 27
CABRILLO ST
Cabrillo Playground
BM 42
FULTON ST
BM 23
North Lake
Speckels Lake
GOLDEN GATE PARK
Golf Course
Middle Lake
KENNEDY DR
South
NATIONAL GOLDEN
RECRE
ANCISCO
THE ESPLANADE
JOHN F
GOLD
0
0.125
0.25
0.5 Miles
ACP 2 - SF Bay & Delta - GRA 2
9842
Department of Fish and Game
Office of Spill Prevention and Response
San Francisco County Layout 003
October 1, 2005

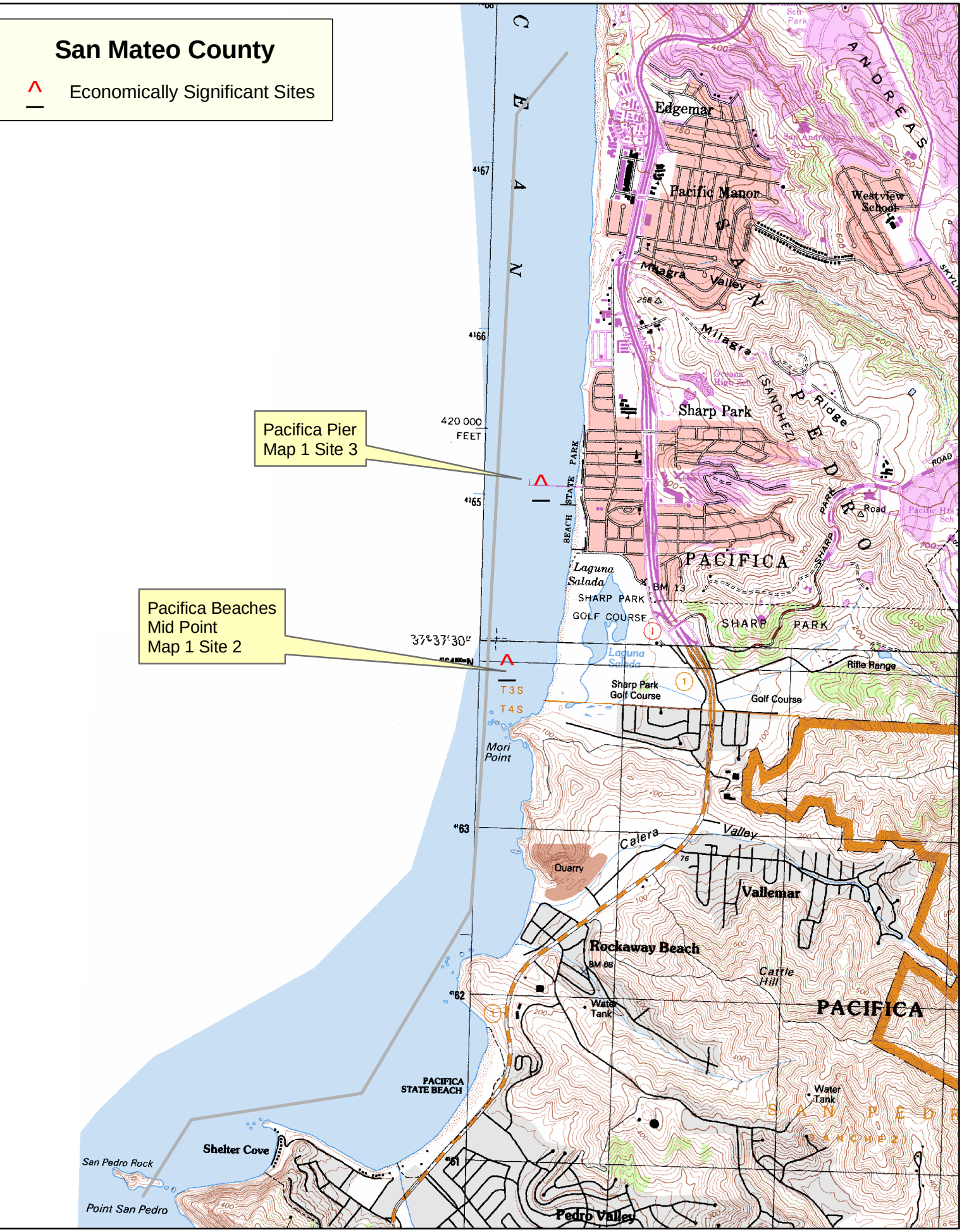
0 0.3 0.6 Miles

ACP 2 - SF Bay & Delta - GRA12

9842

California Department of Fish and Gam
Office of Spill Prevention and Respons
San Francisco County Layout 004

October 1 2005



0.5 0.25 0 0.5 Miles

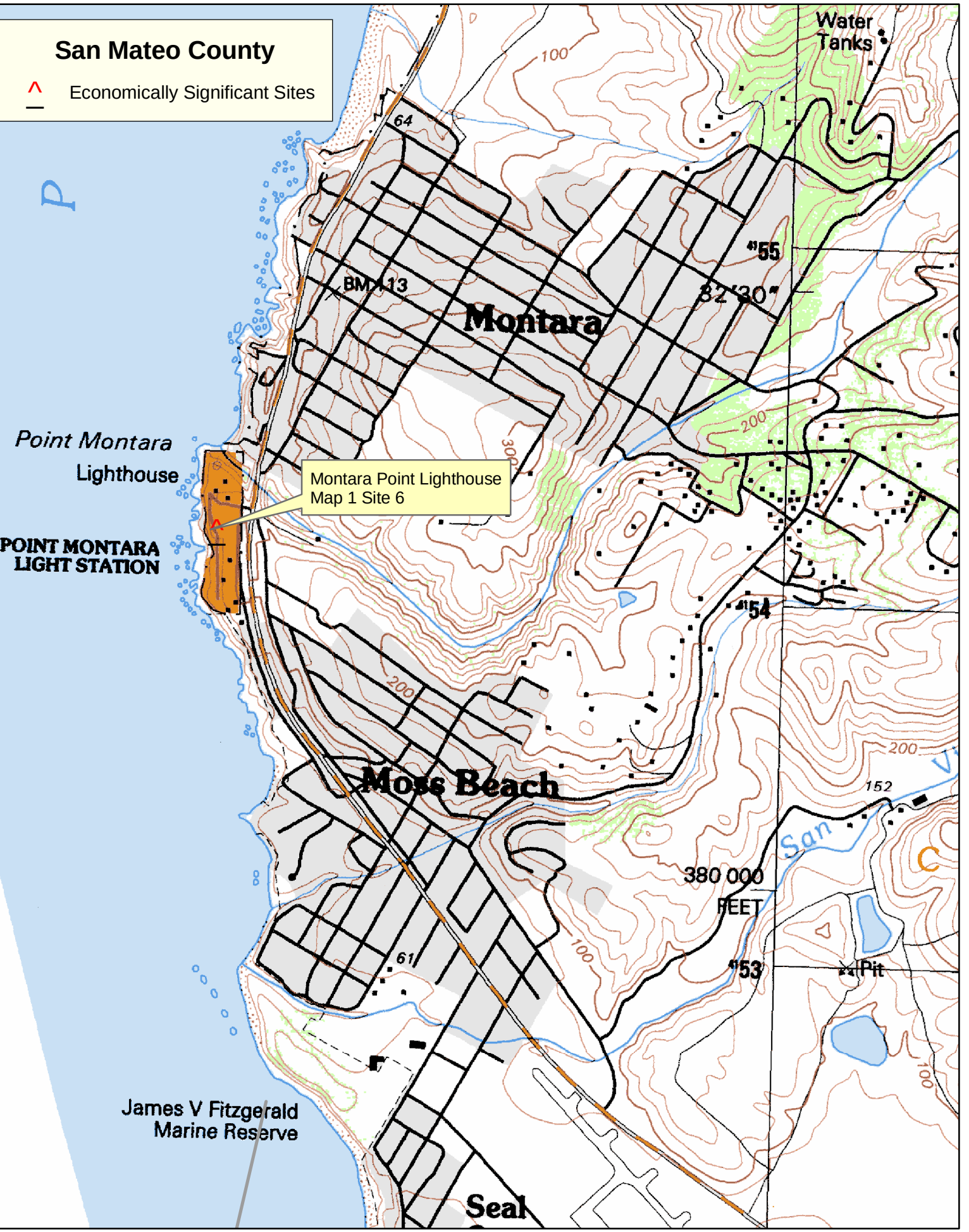
ACP 2 - SF Bay & Delta - GRA 2

9842.

California Department of Fish and Game
Office of Spill Prevention and Response
San Mateo County Layout 001

October 1, 2005


San Mateo County
Economically Significant Sites
Devils Slide
San Pedro Mountain
BM 508
1000
500
800
BM 924
Green Valley
STATE
Gray Whale Cove Beach
Map 1 Site 4
GRAY WHALE COVE
STATE BEACH
Turn
BM 338
MONTARA
STATE BEACH
Martini Creek
MONTARA
STATE BEACH
0.25 0.125 0 0.25 Miles
ACP 2 SF Bay & Delta GRA 2
9842.
California Department of Fish and Ga
Office of Spill Prevention and Respon
San Mateo County Layout 002
October 1, 2005



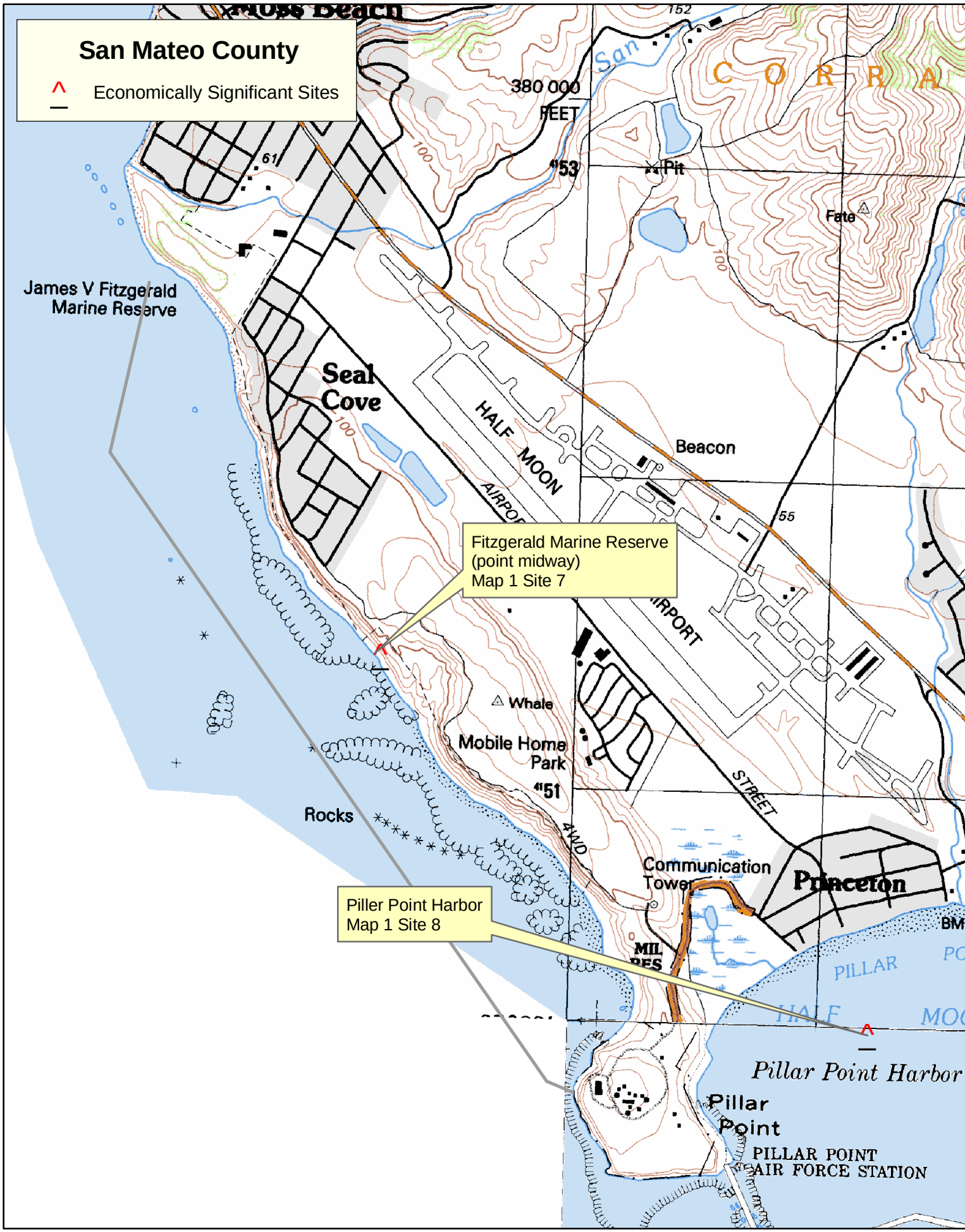
0.25 0.125 0 0.25 Miles

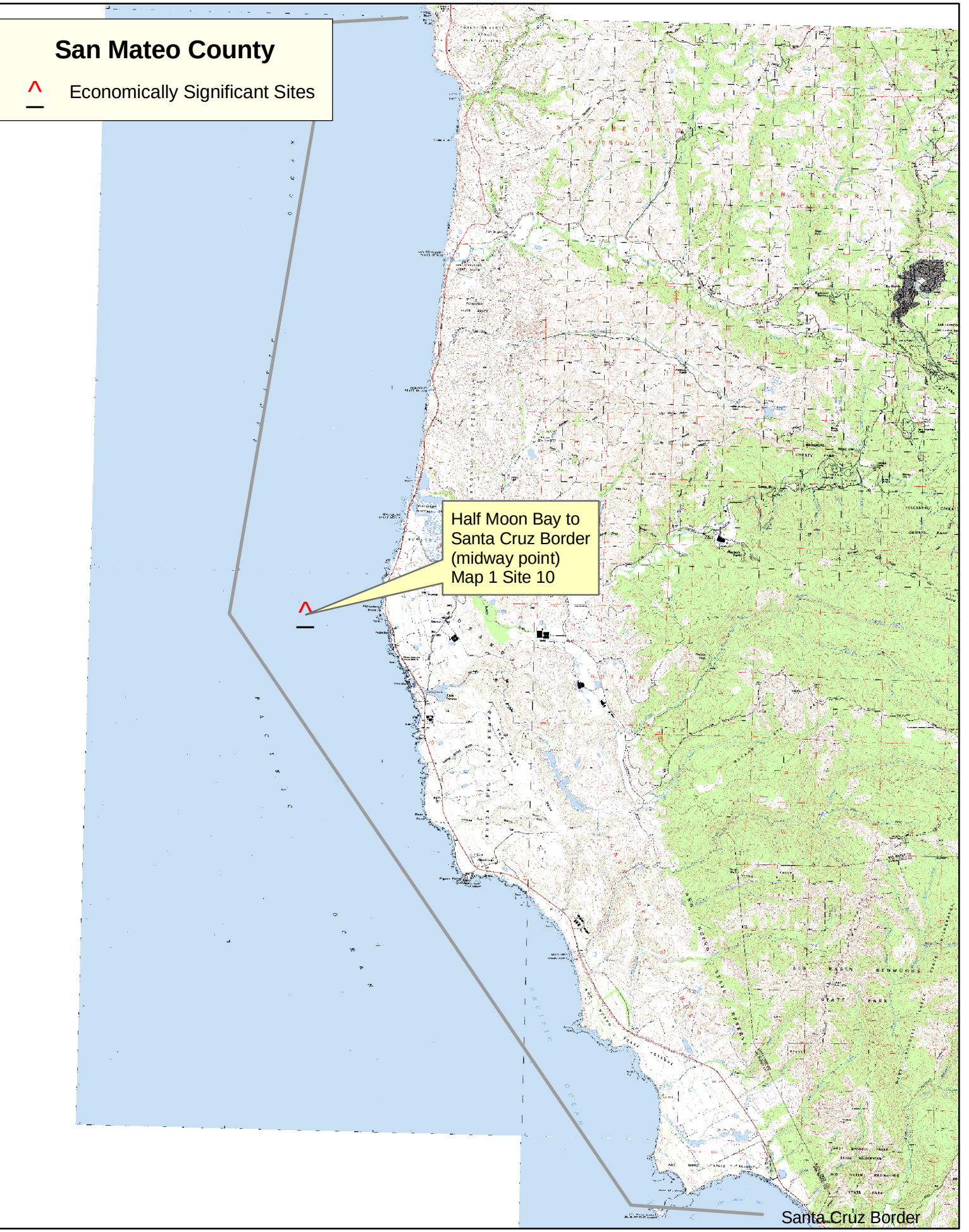
ACP 2 - SF Bay & Delta - GRA 2

9842.3

California Department of Fish and Game
Office of Spill Prevention and Response
San Mateo County Layout 003

October 1, 2005


San Mateo County
Economically Significant Sites
Moss Beach
380 000 FEET
C O R R A
James V Fitzgerald Marine Reserve
Seal Cove
HALF MOON
Beacon
Fitzgerald Marine Reserve (point midway) Map 1 Site 7
Whale
Mobile Home Park
Rocks
STREET
Communication Tower
Princeton
Piller Point Harbor Map 1 Site 8
Pillar Point Harbor
Pillar Point
PILLAR POINT AIR FORCE STATION
Fate
Pit
0.25 0.125 0 0.25 Miles
ACP 2 - SF Bay & Delta - GRA 2
9842.
California Department of Fish and Ga
Office of Spill Prevention and Respon
October 1, 2005
San Mateo County Layout 004


San Mateo County
Economically Significant Sites
Half Moon Bay to
Santa Cruz Border
(midway point)
Map 1 Site 10
Santa Cruz Border
2 1 0 2 Miles
ACP 2 - SF Bay & Delta - GRA 2
9842.3
California Department of Fish and Game
Office of Spill Prevention and Response
San Mateo County Layout 005
October 1, 2005

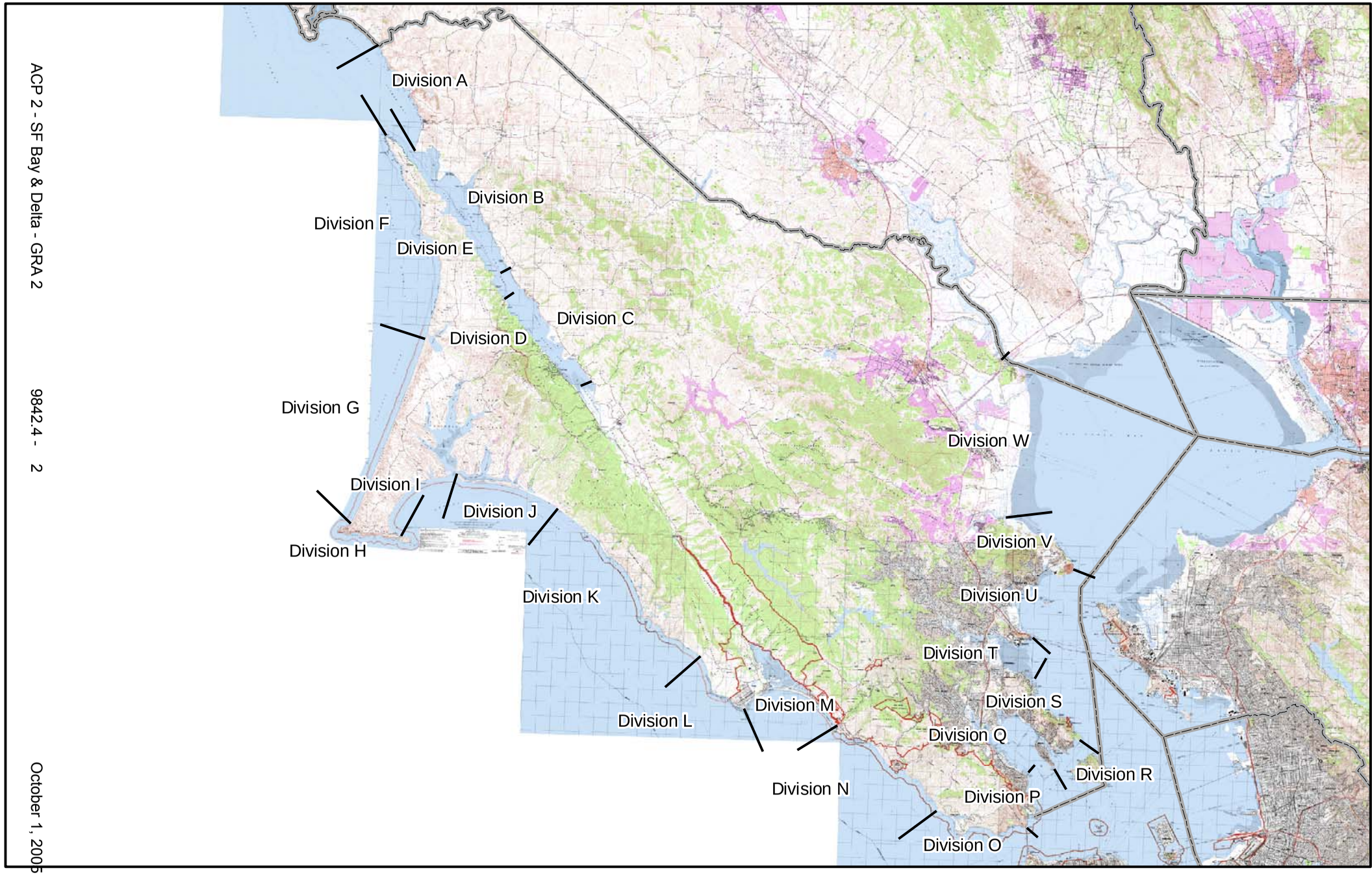
9842.4 Shoreline Operational Divisions

Shoreline Operational Divisions are presented in the ACP as front-loaded information to assist in rapid response planning to provide for quickly organized operational objectives and assignments along affected shorelines. The operational divisions have been developed in conjunction with the US Coast Guard, California Fish and Game OSPR, and various Oil Spill Response Organizations. Experience has demonstrated that in the earliest stages of spill response having organizational issues such as this prepared in advance is very useful to the response team.

The shoreline operational divisions are organized and named according to County boundaries. Within county domains, divisions are boundaries are guided by logical geo-political features such as coastal physical characteristics and land ownership/management issues, shoreline cleanup logistical considerations, and manageable sized coastline segments (generally not longer than about ten miles although some variation occurs.) Logistics, access, and manageability were driving considerations in this effort, particularly as it relates to types of cleanup operations required and problems likely to be present.

In ACP areas having more than one county, Shoreline Operational Divisions will utilize county codes followed by a single alpha character (A to Z). Shoreline operational divisions are labeled from north to south in each county. For example, the north-most operational division in Los Angeles County is “LA-A.” In large bays (i.e. San Diego), the labeling will progress in a clockwise direction to accommodate changing coastline angles. Divisions can be easily subdivided (as necessary) by the Operations Section management to provide for appropriate work assignment effort.

Double digit alpha characters (AA to ZZ) will be used for all offshore operational areas and any other special operational areas needed during response.



ACP 2 - SF Bay & Delta - GRA 2

9842.4 - 2

October 1, 2005

Legend

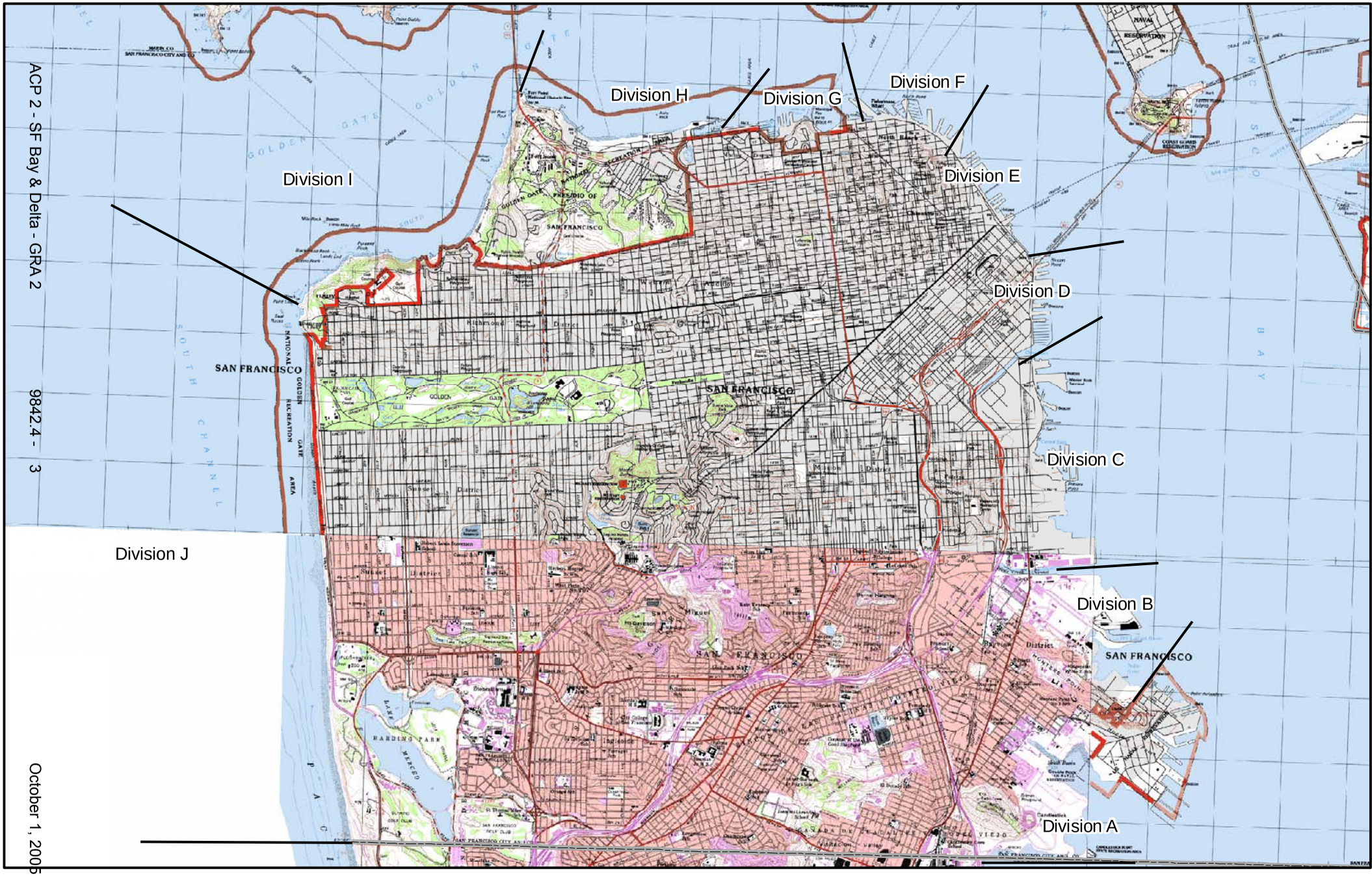
Division Line

Source: J. Tarpley

0 5 10 20

Miles

San Francisco (SF) County Operational Divisions



ACP 2 - SF Bay & Delta - GRA 2

9842.4 - 3

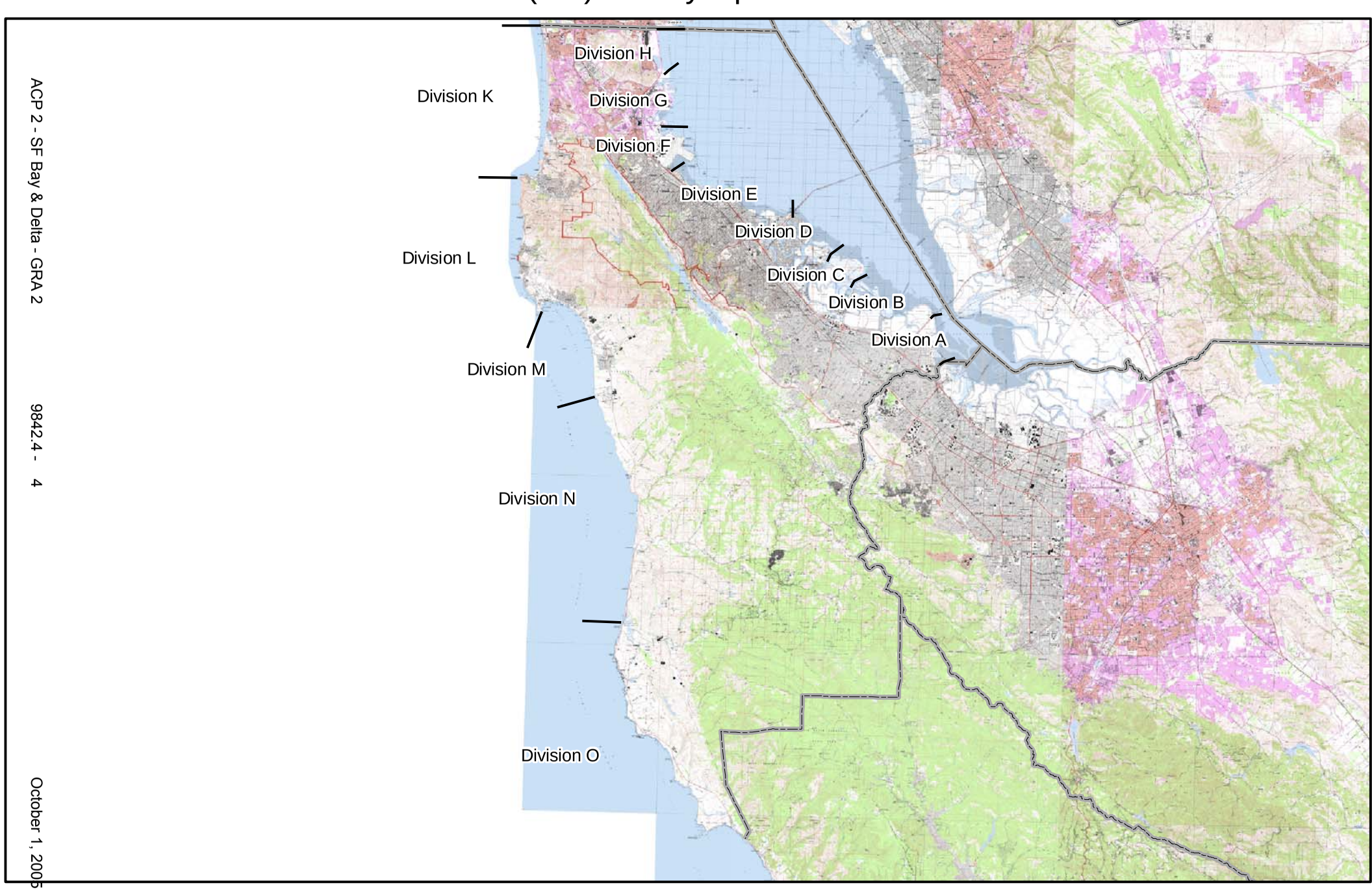
October 1, 2005

Legend

Division Line

Source: J. Tarpley

0 1 2 4



ACP 2 - SF Bay & Delta - GRA 2

9842.4 - 4

October 1, 2005

Legend

Division Line

Source: J. Tarpley

0 5 10 20

Miles